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Railway & Commercial Gazette

Vol. CCXL No. 6139

LONDON, APRIL 17, 1953

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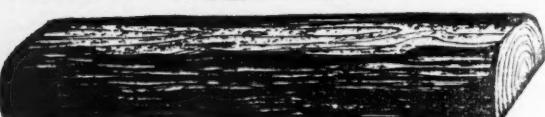
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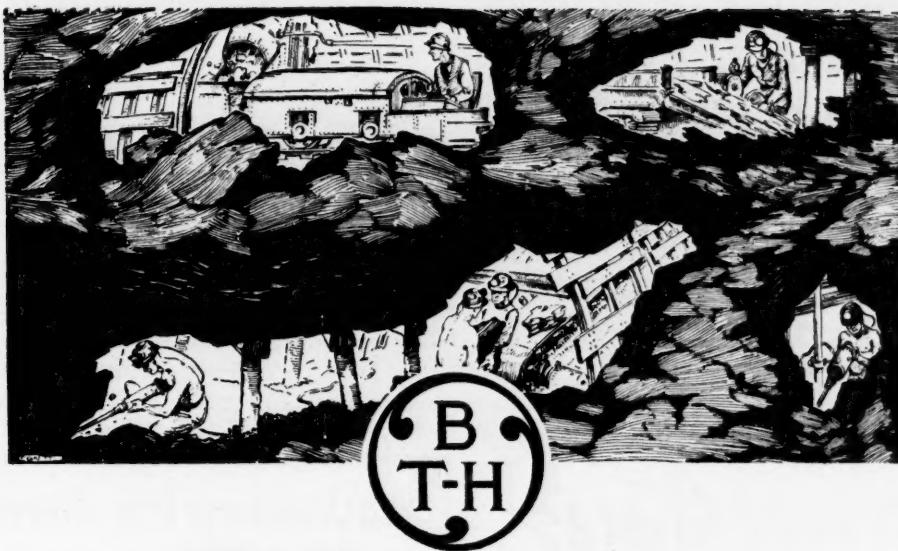
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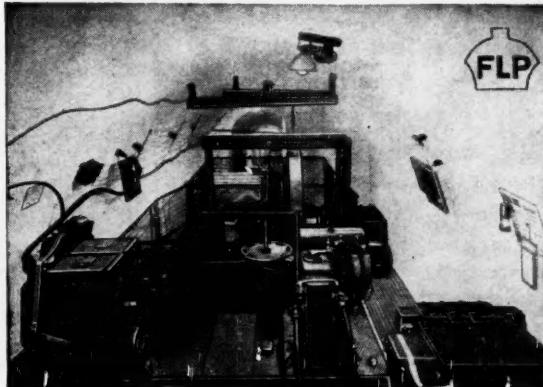


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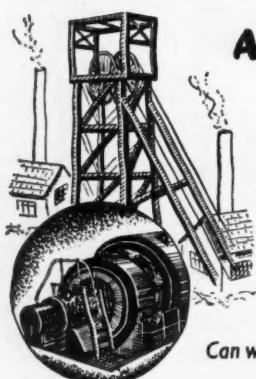
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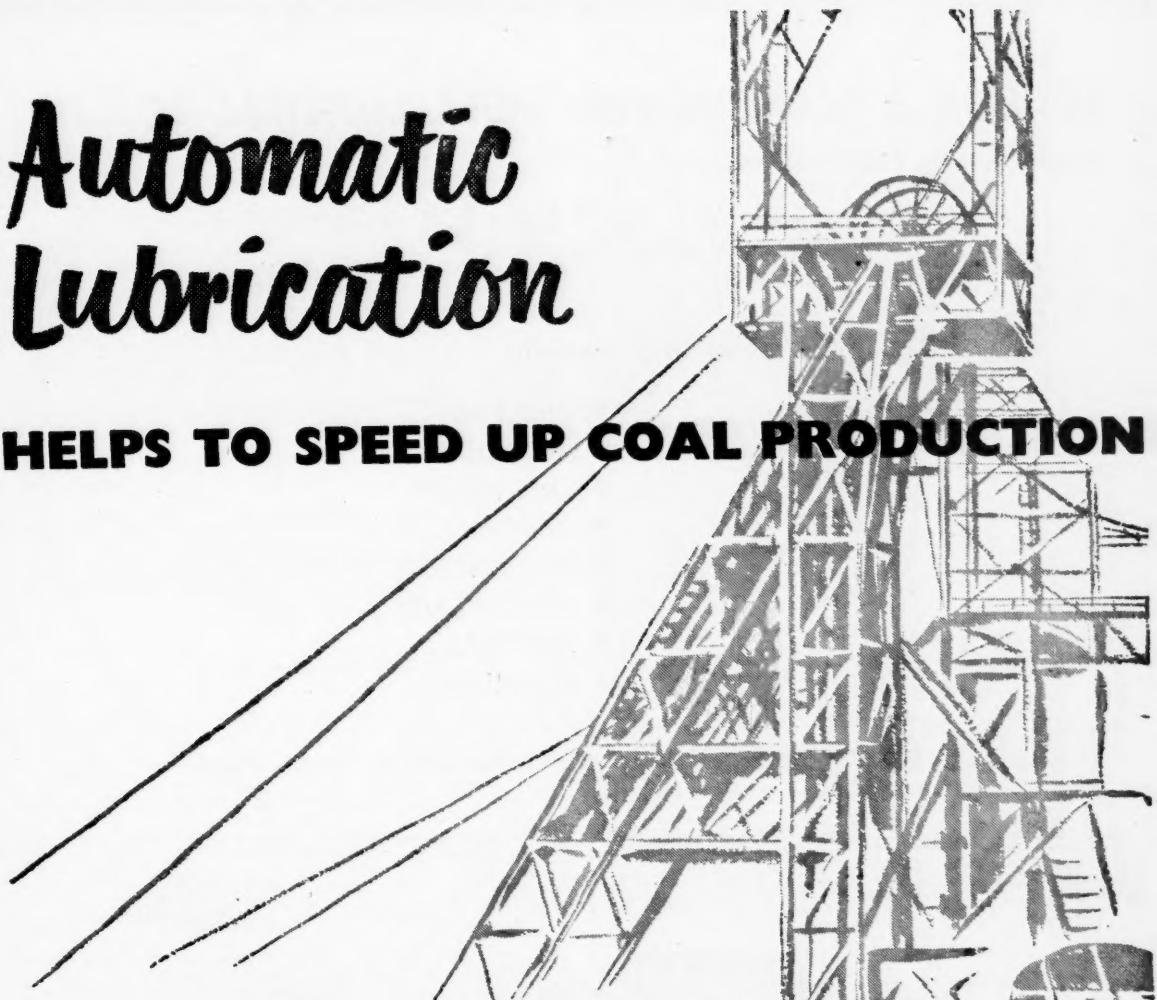
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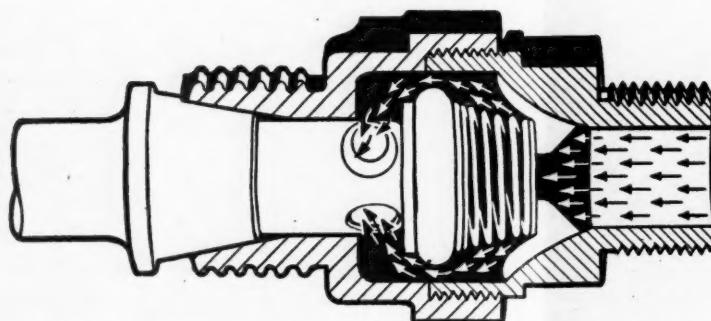
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The Mining Journal

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NOTES AND COMMENTS

The Budget

It is difficult to imagine fair-minded people cavilling at the budget presented on Tuesday of this week by the Chancellor of the Exchequer, Mr. R. A. Butler. If criticism is called for it will rest substantially on the view that despite the better balance of payments position and the higher gold and dollar reserves this country's margin for error is still perilously small and does not warrant the risks which the Chancellor has taken.

The reduction of sixpence in the standard rate and in each of the reduced rates of income tax, the repeal of the Excess Profits Levy on January 1 next, and the reinstatement of the initial allowances for re-equipment at the rates originally introduced by Sir John Anderson in 1945, tot up to a sum far in excess of the prospective improvements in this year's ordinary budget surplus which is only of the order of £190,000,000.

Thus it would appear that the Chancellor has embarked on a slightly inflationary policy. On the other hand, there has been no relaxation of the stringent monetary policy pursued with so much success during the past year—added to which there is little doubt that the world-wide trend is tending towards a disinflationary phase rather than the reverse. In any event this is a matter of judgment. But since the Chancellor was so effective in countering his critics last year concerning the efficacy of the bank rate as a useful weapon to control inflation, it would be no more than charitable to give him the benefit of the doubt on this point—fully realizing, of course, that should certain basic assumptions go awry the cost to this country would be enormous.

Specifically as regards the mining and oil industries, the reduction of sixpence on the standard rate, the abolition of E.P.L. as from January 1 next, and the increased rate of the initial allowance for capital expenditure, both at home and overseas, to 40 per cent instead of the 10 per cent formerly granted are the three important concessions directly affecting these industries.

The reduction in the standard rate by sixpence will increase the real value of the dividend distribution thereby giving more inducement for the attraction of capital. The

abolition of E.P.L. will mean a great deal to certain companies, such as the British South Africa Company (Chartered) which paid as much as £950,000 in the first nine months of its operation.

How far and to what extent the granting of the 40 per cent initial allowance for capital expenditure on new mining works will encourage the much-needed expansion and equipping of the British mining industry at home and abroad remains to be seen. Obviously this concession together with the abolition of E.P.L. will cause many companies to reconsider capital expenditure programmes which were highly impractical before the reliefs were granted. But the abolition of E.P.L. is merely redressing the unbalance, as it were, imposed last year so that what concessions are left to the mining industry of direct importance are the sixpenny reduction in the standard rate and the reinstatement of the initial allowances for capital expenditure. Moreover these concessions while useful can only be considered as a step in the right direction, for the taxation burdens under which the mining industry must seemingly still suffer, remain to frustrate attempts to build up sufficient reserves to take full advantage of the new concessions.

Should, however, the mining and oil industries embark on capital expenditure programmes and prospecting ventures, this should result in very real benefits accruing to U.K. manufacturers exporting mining machinery and equipment.

A British Central African Federation

Widespread relief will, we believe, be felt in most parts of the British Commonwealth at the big majority which Southern Rhodesia has returned at the recent referendum for the acceptance of the Federative plan which received the approval of the British Legislature last February. While Northern Rhodesia and Nyasaland are not politically sufficiently advanced to render a referendum practicable, the result has been acclaimed in the northern territory and we can hardly doubt that the predominantly officially inspired legislatures of the two less politically mature Protectorates will give the necessary approval which will enable

the British Parliament finally to approve the scheme.

The great mass of the native population is inevitably mute and though the few educated or semi-educated, but inevitably politically inexperienced, Africans continue to proclaim their opposition to the fusion, this seems more prompted by the inferiority complex of race and colour than by any sound appreciation of the benefits which should enure to the inhabitants of the territory individually and collectively. Fundamentally the scheme is conceived economically, not ideologically. The new Federation embraces countries with enormous economic potentialities, especially mineral, and one has only to reflect on the immense progress in the discovery and bringing into exploitation of the mineral resources of Southern and Northern Rhodesia since the outbreak of the world war to realize something of what may be further achieved provided capital resources on a necessary scale are forthcoming. There are railways and roads to open up, at present in inaccessible country, power resources to be exploited, and food production to be stabilized and expanded.

It may well be that this capital is going to be harder to attract by private enterprise than has hitherto been the case. But the finding of capital on the necessarily great scale, whether from governmental or private channels, will be far more likely of realization in a great Federated territory than in three under different administrations and in many respects probably competitive. Nor is this all : Southern Rhodesia is a vigorous and rapidly expanding colony which can only advance northwards through fusion with its two neighbours or fall back into the embrace of the South African Union which it refused in 1924 and later, and which would to-day entail a far more drastic absorption by Broederbond political ideologies. In this case, the old maxim of "Union is strength" is obviously applicable.

It was hardly to be expected that the idea of Federation would receive universal acceptance; many of us can remember the strong opposition in many of the Australian states to the formation of the Australian Commonwealth, and how Western Australia in particular long sought to be divorced from the Union. To go further back still it will be recalled how the United States of America was only built up unit by unit over a long term of years; but no one would suggest to-day that a severance of the integral parts of the Great Republic or of the Australian nation could be either possible or welcome. It will doubtless take years for the new Central African complex to become fully knit together as a Federated State or Dominion, which would seem the natural evolution. For the time being we must be satisfied to see an important part of the original Rhodes dream of British Confederacy established and hope that world economic conditions will continue to foster the economic benefits which it seems to promise.

Growing Importance of Abestos to S. Rhodesian Economy

During the course of 1952 asbestos proved to be Southern Rhodesia's most valuable mineral product. Value of production totalled £6,652,000 and for the first time outstripped gold, which showed a production output worth £6,520,000. For several years the combined value of the base metals and minerals produced in Southern Rhodesia has exceeded that of the territory's gold production, but never before has gold lost its place as the most valuable single metal product.

The figures quoted were contained in a recent issue of *The Economic and Statistical Bulletin*, and the same publication adds that gold was unable to maintain its place despite the fact that from April 1952 onwards, practically the entire gold output of Southern Rhodesia was sold through a London broker at a premium price.

A total of 28 different minerals and base metals was mined in the territory throughout last year, and whole value of mineral production was £20,201,282, a price which shows an increase of approximately 25 per cent over the figure for

the previous year. Increased prices for many minerals were responsible for the recorded rise in the value of production, although the tonnages mined decreased over the previous total.

A Uranium Discovery in Damodar Valley

In our issue of February 27, 1953, it was reported by our Indian correspondent that gold had been discovered in the Damodar Valley, India. Writing under date of March 20, our correspondent now reports a uranium discovery in the same area. This find has been announced by Mr. A. Mukherjee, irrigation minister of Bengal, who denied in the Bengal State Assembly that World Bank loans had been advanced chiefly for the exploitation of the uranium deposits.

Simultaneously it has been announced by Mr. Maulana Abul Alam Azad, minister of natural resources and scientific research in the Government of India, that his Government has a seven-point programme appertaining to the development of atomic energy in India.

The plan as it stands includes a survey of India for atomic minerals, particularly uranium, which is the only naturally occurring atomic fuel. Other points include the construction of an atomic reactor, as well as the setting up of the following divisions. First, a medical and health division of the Commission to maintain and examine the health of personnel engaged on atomic energy work; second, a biological division for fundamental work in the field with the use of techniques arising out of the development of atomic energy; third, a pilot plant for the extraction of uranium from copper tailings and low grade uranium ore and a plant for the processing of thorium and uranium from the residual cake remaining after the rare earth chlorides and carbonates have been extracted from monazite at the Alwaye factory; and finally a plant for the processing of uranium to the most satisfactory state of atomic purity.

Opportunities for British Manufacturers

The British Industries Fair traditionally emphasizes the value of exportation to the United Kingdom manufacturer, and this year an interesting detail is the fact that a new dollar market will be represented at the Fair for the first time. This is instanced by the attendance of official representatives of the Liberian Government, as part of a plan to convince United Kingdom manufacturers that modern Liberia is a dollar market possessed of a growing surplus to spend on ambitious expansion programmes. Nor does this appear incongruous, as Liberia covers an area of 43,000 square miles rich in raw materials, while recently renewed concession agreements have given the country a much greater share in the proceeds of its natural wealth.

Liberian officials in Britain are negotiating for improved shipping services to link Europe with Monrovia, while three international air lines already make scheduled calls at Liberian airports and plans are being pushed ahead to install new airstrips to aid in increasing the frequency of calls.

In similar vein is the news that a Burmese Government purchasing mission will be visiting this country between May 5 and 25. The mission will be led by the Minister of Public Works and will include representatives of the Shipping Board and Railways, and of the Irrigation, Agriculture, Inland Water Transport, and Building and Works departments. The mission has as its object the purchasing of the capital goods and machinery for various Pyidawtha schemes.

While news of these arrivals to our shores indicates a happy augury of the future, it is interesting to note that the visit of Marshal Tito has now been followed by a delivery of British machinery to Yugoslavia. The Clayton Equipment Company has recently completed four battery-operated locomotives which will shortly be sent to Yugoslav coal mines. Enquiries regarding similar units have also been received by the company from Poland.

Australia

(From Our Own Correspondent)

Melbourne, March 30.

A new dredging company has been registered to operate in the Mount Garnet district of North Queensland. The company is known as the Ravenshoe Tin Dredging Ltd., and when in production, Australian tin production should be substantially increased. The company has an authorized capital of £A600,000 and the Queensland Government has guaranteed a bank advance of £A200,000 which will be used largely to finance the purchase of the large-bucket dredge from the Barrytown Gold Dredging Co. in New Zealand. The dredging areas contain 31,000,000 cu. yd. of ground, the bore value of which averages 10.5 oz. tin oxide. Estimated recovery is 85 per cent of the bore value. Estimated return from operations is 750 tons of tin oxide per annum, assaying 72 per cent metallic tin. Purchase price of the dredge is £A85,000 and the estimated cost of developing and equipping the property is £A417,250. The dredge is 148 ft. long by 55 ft. beam and 10 ft. 6 in. deep, and is equipped with 12 cu. ft. buckets. Installed h.p. is 820. Capacity approximates 200,000 cu. yd. per month. At the present time, the dredge of Tableland Tin Dredging is being removed and re-erected on new leases about 11 miles distant from the old area. This dredge was producing 50-60 tons of tin oxide per month when working on the old area, and as the new ground has nearly comparable value, the Tableland dredge and that on the Ravenshoe property, will make a large contribution to Australian tin output, which is now at a very low level.

COPPER AND LEAD IN WESTERN AUSTRALIA

North Broken Hill is investigating the possibilities of the old Whim Creek copper mine between Roebourne and Port Hedland on the north-west coast of the State. Some 40 or more years ago this mine was the most important copper producer in Western Australia; it is 12 miles from the coast. Diamond drilling has been in progress for four months, and apparently, results have been sufficiently encouraging to interest the North Broken Hill company. The ore body was large, and it is reported that a large tonnage of ore assaying about 12 per cent copper was shipped south to Fremantle smelters.

The reviving lead mining industry in the State has had a set-back in the closing down of the Protheroe lead mine, which was being worked by Anglo-Westralian Mining Proprietary Ltd., a company formed by Mount Isa Mines Ltd. and Big Bell Mines Ltd. The mine has been equipped with milling plant, and production had been established on a firm basis when the fall in the price of lead caused operations to be suspended. Some men have been retained to carry on development in the hope of a return by lead to a profitable price. The hitherto successful operations at Protheroe had directed attention to other lead occurrences in the Northampton district, and there seemed a good prospect that lead mining might again become of importance to the State. For the year ended December 31, the State's lead production was 1,556 tons.

NORTHERN TERRITORY MINING

A recent development in the Territory is the granting of a reserve of 137 square miles at the Tennant Creek gold-field to Canadian interests for prospecting for gold and other minerals. It is the intention to carry out extensive diamond drilling and equipment to be employed is stated to have a range down to 2,000 ft. The greatest depth reached on the field in underground development and minning is 400 ft. in the Eldorado mine, but previous diamond drilling by the Commonwealth Government reached a depth of about 800 ft. A second company, Northern

Mines Development, apparently with satisfactory financial backing, is also to undertake similar work at Tennant Creek. This interest in possibilities at depth is due to the discovery of high-grade copper ore in the Peko Mine, in apparently important quantity. Copper has since been reported on other leases. This recent location of copper ore is interesting for, so far as is known, copper ore, or indications of copper, had not been observed in the gold workings which numbered over 100 on the field, and copper is not present in the two deep mines, Eldorado and Australian Development, although a trace of copper is present in the cyanide bullion at the latter mine. Adverse comment has been raised in some quarters over the granting of this large concession over part of a proved gold-field, whereby much of it will be closed to prospectors and any larger operators who may, possibly, succeed them. The second company mentioned has taken up leases beyond the bounds of the reservation. Both ventures are highly speculative.

MOUNT ISA : AN ESTABLISHED COPPER PRODUCER

Mount Isa Mines Ltd., in North Queensland, is now established as a copper producer, and in February treated 24,941 tons of ore in the new plant for the recovery of 407 tons of blister copper. Production is to be increased to 40-50 tons of copper per day, and on a seven-day per week basis, the expected annual production will be between 15,000 to 18,000 tons of copper per year. This will double Australian production, which for 1952 was 16,500 tons. At the present time the country is importing about 40,000 tons of copper per year. The copper lode, lying to the west of the large lead lode, has been developed to the extent of 3,000,000 tons of ore with an assay value of 4 per cent. A copper concentrating plant has been built and a copper smelting section added to the smelter, at a cost, including mine preparation, of £A3,000,000. One heavy handicap on the copper undertaking, is the necessity to pay to workers in the copper section, the lead bonus received by workers in the lead production operations. An approach has been made to the Industrial Court with the object of removing or modifying this serious anomaly, by basing the lead bonus on a much higher lead price and changes in certain other directions. The Court's decision has not yet been made known. As the lead bonus is determined on the selling price for the metal and is in no way an incentive to production, the adverse implications of the bonus can be appreciated.

BEACH SANDS

Australian resources in beach sands—zircon, ilmenite and rutile—are being rapidly explored, and are becoming greatly increased in extent and importance. Occurrences, many of commercial grade, have now been located over a range of some 500 miles along the eastern coast line, from north of Brisbane to south of Sydney. In Western Australia, search has located deposits on the western coast, south of Fremantle. A notable feature of these Western Australian deposits is that the ilmenite is practically free from chromium, the content of which mineral, in the eastern occurrences, is sufficiently high to make the ilmenite concentrate unacceptable for pigment purposes, so that large quantities have had to be stockpiled.

It is estimated that Australian mineral output rose during 1952. Output of copper was running at an annual rate of 17,584 tons based on production figures for the first 11 months, compared with 12,483 for the whole of 1951, while refined zinc totalled 87,448 tons against 77,010 tons previously. Exports of zinc amounted to 44,741 tons against 20,529 tons in 1951 while exports of concentrates reached 202,816 tons compared with 136,816 tons. Mine production of silver was estimated at 11,000,000 oz. in 1952 against 10,400,000 oz. in 1951.

Brazil's Programme of Works in 1952

(From Our Own Correspondent)

Teresopolis, March 27.

President Vargas has approved the 1953 Programme of Works, submitted by the Department of Mineral Production. The plans, which entail an expenditure of £1,000,000, include the search for uranium, thorium and other atomic source materials; investigation of deposits of tungsten, tantalum and beryllium in north-east Brazil and of zirconium, bauxite and potassic rocks at Pecos de Caldas, Minas Geraes; detailed examination of monazite sands on the coast from Bahia to Rio; co-operation with the U.S. Geological Service in prospecting and measuring the reserves of the Minas Geraes Quadrilateral, Brazil's richest known mineral zone; prospecting for coal in Parana, Santa Catarina and Piaui; experiments in the gasification of coal from the Gravatai mines in Rio Grande do Sol, without prior extraction; prospecting for tin ores at Sao Joao del Rei, Minas Geraes, and phosphate marl in Pernambuco and Paraiba. Plant to produce 120,000 tons of phosphatic fertilizer annually is to be installed at Pernambuco, to work with raw material from Olinda, where the phosphatic ores are estimated at 40,000,000 tons. Extensive drilling operations will be undertaken in the semi-arid north-east, now suffering from the worst drought of recent years.

THE SEARCH FOR URANIUM

The search for uranium ores and other radioactive minerals is being concentrated near the Paraiba and Rio Grande do Norte border, particularly at Borborema, which is believed to embrace nearly all the productive structures of the north-east. The reported discovery of uranium in the Barreira Valley, in Araxa, Minas Geraes, is now being investigated. Uranium is also believed to have been found at Nova Lima, where geologists are prospecting on behalf of the Morro Velho Company.

In Central Minas Geraes, Brazilian and American experts are endeavouring to ascertain the true value of the ferro-manganese beds in an area of 2,650 square kilometres.

In Amapa, Companhia Siderurgica Nacional, of Volta Redonda, is installing furnaces to extract tin from the local cassiterite and arrangements have been made to examine the chromite beds along the Rio Preto, provisionally estimated at 250,000 tons.

MINERAL PRODUCTION AND EXPORT

A substantial increase in mining activities is predicted. Home consumption of steel reached 1,250,000 tons last year, as against 70,000 in 1930; that of cement increased from 460,000 to 2,440,000. Consumption of steel per head has risen from 2.01 kilos in 1930 to 22.9 in 1952; cement, from 13.7 to 44.5. To meet local needs Brazil imported 1,320,000 tons of iron and steel last year and 820,000 tons of cement. This supply fell far short of the demand, however, and imports should increase considerably when the exchange position improves.

Interest in mining activities is growing year by year. In 1952 26 licences were granted to exploit mineral deposits, 47 mining companies were authorized to operate and 386 prospecting permits were issued. Among these was one to search for iron and manganese near Borba, in Amazonas. Another permit for the same district was issued in March this year. As Borba is situated near the

mouth of the Madeira River, shipments through Manaus or Para would present little difficulty.

The demand from abroad for Brazil's mineral raw materials is increasing. Contracts were signed early this year to ship 1,200,000 tons of iron ore from the ex-British Itabira mines to United States at U.S. \$18.00 per ton. Exports of iron ore increased in 1952 by 240,807 tons, to 1,560,814, and of manganese, by 41,501 tons to 161,401. Prices rose 60 per cent for iron, to U.S. \$15.63 per ton, and 45 per cent for manganese, to U.S. \$31.54. Exports of beryllium, now restricted to 4,000 tons of primary concentrates annually, increased by 947 tons, to 2,479 in 1952; scheelite, by 1,128, to 1,464 tons; rock crystals, by 106, to 917 tons; other mineral raw materials, by 9,409, to 16,639 tons.

Norwegian Mineral and Metal Shipments in 1952

(From a Norwegian Correspondent)

The Central Bureau of Statistics published its official report on the external trade of Norway recently from which the following returns are taken. Imports for the year (excluding ships) were valued at Kr. 5,579,249,000,000 which compares with Kr. 5,365,354,000,000 in the previous year. Exports (excluding ships) were valued at Kr. 3,768,428,000,000 compared with Kr. 3,978,585,000,000 in 1951. There was thus an adverse trade balance of Kr. 1,810,821,000,000 compared with Kr. 1,386,769,000,000 in the previous year.

IMPORTS

Imports of coal from Svalbard totalled 765,336 tonnes (1,482,565 in 1951). Limestone imports were 4,214 tonnes (5,274) and of magnesite 659 tonnes (1,029). Imports of coke increased to 284,592 tonnes (193,537). Gypsum made 31,909 tonnes (30,445) and cryolite 5,579 tonnes (2,975). Iron and lump ores rose to 4,635 tonnes (830). Manganese ore rose to 253,163 tonnes (201,624) as did bauxite at 41,401 tonnes (20,151) and chromite to 50,514 tonnes (49,918). Zinc concentrates were considerably lower at 59,052 tonnes (89,895).

Among metalliferous materials raw copper rose to 2,882 tonnes (1,709). Raw lead showed little change at 7,522 tonnes (7,515). There was heavy decrease in raw platinum at 39,041 grms. (52,532).

EXPORTS

In iron and lump ore shipments rose slightly to 31,416 tonnes (29,959) and iron concentrates advanced to 679,388 tonnes (239,121). Cupreous pyrites improved to 141,064 tonnes (131,227). Purple ore low in copper nearly doubled at 113,515 tonnes (62,084). Iron pyrites improved to 194,808 tonnes (162,436). Copper matte rose to 15,446 tonnes (13,789). However molybdenite declined to 250 tonnes (326) and copper ore to 7,228 tonnes (11,440). Raw copper exports improved to 7,625 tonnes (6,536), copper matte to 15,446 tonnes (13,789), copper scrap and alloys to 2,077 tonnes (1,785), raw nickel made 11,939 tonnes (9,729) but decreases were shown in raw aluminium 35,055 tonnes (41,881) and in wrought aluminium at 1,624 tonnes (2,249) and in raw zinc at 27,635 tonnes (29,215).

Among chemicals and ferro alloys calcium carbide declined to 17,533 tonnes (19,084), ferro-chrome 19,726 tonnes (21,971) but ferro-manganese improved to 84,828 tonnes (80,431).

The Safe Removal of Sill Pillars at Hollinger Consolidated Gold Mines, Ontario

The following article is the reproduction of a paper presented during the proceedings of the technical sessions, annual meeting of the Mines Accident Prevention Association of Ontario by George Webber, mine production supervisor, Hollinger Consolidated Gold Mines. After a brief outline of those underground conditions existing on the property, the author describes the four methods of pillar extraction utilized under certain specific conditions and concludes his remarks by emphasizing the need for trained personnel.

Owing to previous calculated methods of mining practice, Hollinger has a large tonnage of ore reserves in sill floor pillars, in its central ore zone.

The vein systems at Hollinger are perhaps some of the most complex in the world. A typical zone will consist of many nearly vertical lenses and shoots lying in step-like formation, and extending up to 1,000 ft. along the strike. A single vein may be composed of parallel stringers and frequently branching sections, making safe and maximum recovery of sill floors a difficult problem. Detailed planning is required to carry out such a programme successfully.

After World War II, it was decided to increase production from sill floor operations. Consequently, this phase of operations is now responsible for approximately 30 per cent of stoping production.

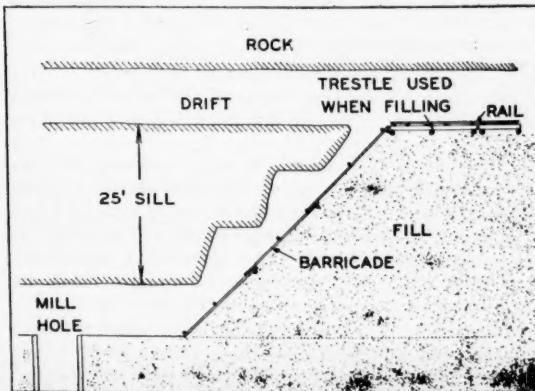
MINING METHODS

Stoping at Hollinger is started from haulage levels 150 ft. apart vertically. Enough cuts are taken until mining has progressed to within 25 ft. of the haulage level above.

New stopes are started by taking down the drift back to a height of 18 ft. above the level rail. After the broken ore is removed, slashing of the walls takes place, if required, for timber installation. Wall-to-wall timber consists of 12 in. x 12 in. or 12 in. x 18 in. B.C. fir supported by 9 ft. posts 10 in. in diameter, and covered by 5 in. lagging placed at right angles. Draw-off chutes are placed at the extremities of the ore.

Mining takes place above the timbered back by breaking, removing the broken ore, and filling the void with sand or waste rock. This process is repeated until mining arrives at the sill height below the next haulage level.

Previously, stopes mined to sill height by the shrinkage method had the broken ore removed, then were filled to a height of 8 ft. from the stope roof. Timber sets were installed to support the back of the stope, while the sill was being used for haulage on the level above. Many of these sills remained for long periods, and retimbering of the stope backs was often necessary.



The first method

Successful removal of these and subsequent sills has demanded a systematic, planned approach. A complete record of stopes with sill floors intact was first compiled, stating potential tonnage and grade of ore. A definite sequence of retreat mining has been planned from this record.

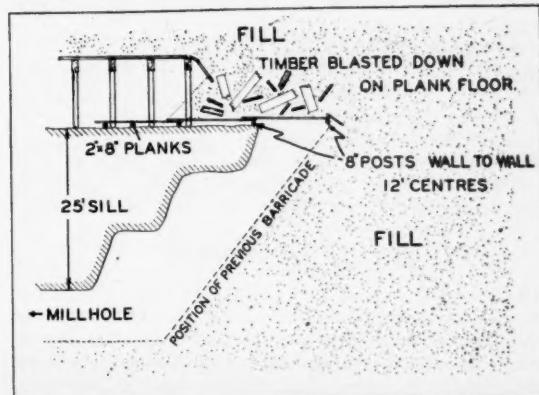
A sill designated for removal is checked on all survey plans and sections and diamond drill hole records checked for close-lying stringers. Inspection of the area underground is then carried out to ascertain any caved sections on the haulage level, or subsidence of the fill below the sill.

Planning for raises and cross-cuts to serve as escapeways, or as draw off points for broken ore, is the next step. All factors determined, and conditions being favourable for sill removal, the method is then determined. Following is a brief description of the four methods used in sill floor removal :

- (1) No stopes on the level above. Rock removed is replaced with fill dumped from cars trammed on trestles at haulage level ;
- (2) Ore stoped out on the level above. Timber on the level is collapsed onto a mat of plank or lagging ;
- (3) Ore stoped out on the level above. Steel or B.C. fir crown bars are installed to support the timber above, the rock is removed and replaced with fill by car from trestles ;
- (4) Ore stoped out on the level above. Crown bars are installed to support the timbers above, the rock is removed and replaced with fill run in from the stope above.

FOUR OPERATIONAL PRACTICES

The first method is a simple mining operation, since there are no timbers to be supported as silling-out progresses. The floor pillar is mined out by the routine cut and fill method. If the area above the mined-out sill is to be stoped, flat timber sills are placed on the fill as a footing for the posts supporting the stope timber above. These footings consist of 12 in. x 12 in. B.C. fir or 9 in. x 10 in. post timber flattened on two sides and 16 ft. long. They are laid longitudinally with the drift, so that, should subsidence of the fill take place, they will support the timber above until the fill can be replaced.



The second method

Method two has limited advantages and is applied only under the following conditions: Decayed condition of the timber above does not warrant support; the area is to be abandoned for any future mining; and sequence of mining the ore body is downward from level to level, and the void created by controlled subsidence is refilled at the apex of the body.

A disadvantage of this method has been the frequent arching of the rock fill above the timbers after they have been collapsed by blasting.

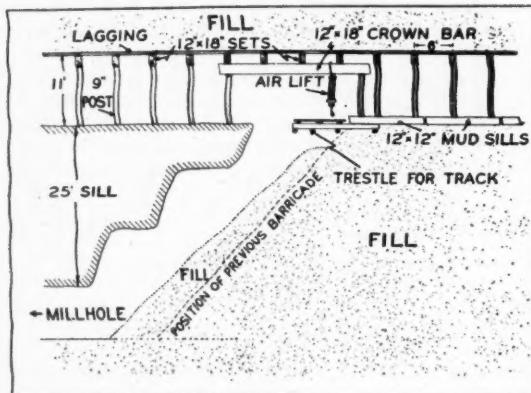
In many instances the arch has resisted heavy blasting in efforts to start the flow of fill to replace the broken ore removed. This has created very hazardous overhead conditions for those doing the blasting.

Where sand is used for filling, it also requires careful chinking of the mat laid on the level, prior to blasting down the timbers.

The main advantage of this method is the low cost obtained by eliminating the need for retimbering the original stope supporting timber.

Pillar removal operations have been carried out by method three wherever possible. The reasons for this choice are:

(a) To maintain accessibility of areas that would be mined, should the price of gold increase.



The third method

(b) To avoid movement of ground adjacent to operating shafts and pass systems, which may be caused by the subsidence of fill.

(c) To maintain ventilation passages in certain sections. Collapsing an area may seriously affect the flow of air feeding the lower levels of the mine.

(d) To assure adequate drainage in upper level areas, where the problem could be acute during the spring break-up period.

(e) To attain maximum pillar ore recovery.

Method four is applied in areas of the mine where cost of haulage for backfill can be avoided. These areas lie generally in the outer fringes of the main ore zone. The fill is run in by blasting open a small area in the lagging supporting the backfill above, which allows sufficient sand to replace the space below, then stopping the flow with plank or lagging.

DETAILS OF METHOD

In the mining of a 25-ft. thick sill, two 10-ft. breasts are advanced horizontally, one behind the other, and the remnant is drilled and blasted with vertical holes. Blasting of vertical holes in the remnant tends to reduce loose ground and avoids the open area caused by horizontal parting in the rock structure. At no time is the area open more than 12 ft. in length.

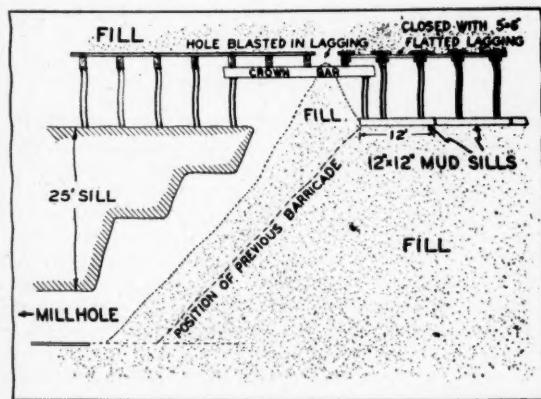
Support of the timber on the level above with crown bars is one of the keys to safe sill floor operations. Two types of material have proven satisfactory for this purpose, B.C. fir—12 in. x 18 in. x 24 ft. long, and steel-H beams—10 in. x 10 in. x 24 ft. long.

All timbers to be used for crown bars are checked thoroughly for signs of weakness before delivery underground. Should any signs of stress be observed after installation, steel collars are placed around the weakened timber. Owing to possible hidden weakness in local spruce and jackpine, this type of timber is not used as crown bars.

When greater strength is required due to the width of the ore body, steel-H beams are installed. The 24-ft. length is made up of an 18 ft. and 6 ft. length, secured at the splice by plates and bolts. A length of 3 in. x 10 in. B.C. fir plank is bolted to the lower flange for the purpose of toe nailing the supporting posts. This also provides a safe gripping surface for the teeth of the timber jack while moving the beam to the next 12 ft. length of sill.

PRECAUTIONARY MEASURES

Where there is a possibility of the remnant overbreaking, and allowing the posts supporting the crown bar to fall, cross timbers are hitched in from wall to wall. Bracing



The fourth method

posts and lagging are placed between timbers to guard against their collapse from material thrown by blasting of the sill remnant.

After a length of sill is removed and the backfill in place, flat timber footings are placed on the fill and permanent posts put under the stope timbers. Crown bars are then advanced to the next length to be removed.

In sections where original timbers were placed in wall hitches, and no crown bars are installed, added end support is given to such timbers. Practice in these instances, is to employ a method of dowelling. This consists of drilling oversize holes into the rock under the footing and heading of the timbers, and inserting discarded steel shaftings from mine cars.

In the subsequent filling of the space made by pillar removal, precautions are taken to ensure that fill will not flow unexpectedly. A run of sand at the wrong time or place may permanently seal off valuable areas, or bury men behind tons of sand. Sandfill is subjected to a percolation test daily as it arrives at the mine. Material meeting the tests is delivered underground through a series of raises.

Experience in the past in backfilling operations has taught the dangers that exist with sand that is saturated with water.

To maintain drain lines where it is important to avoid saturating fill in place, part of a floor pillar may be left intact. In some areas to be collapsed, behind which

seasonal floods may occur, large diamond drill holes are drilled to drain the water to the level below.

TRAINING PERSONNEL

With the increase of sill removal operations, it was realized that greater efforts were needed to train personnel to cope with the inherent hazards of the work.

Training of the crews is the responsibility of each supervisor directly in charge of the work. Performance of the work in sill removal requires closer supervision than do regular stoping operations. A group were therefore chosen to act as instructors. Selection was made from miners having a broad knowledge of all phases of mining operations, and having a high degree of safety consciousness and practical ability. Their duties are to supervise operations in two or three sill stope during the shift, instructing in the different phases of the work.

This process continues until each crew is considered capable of handling the problems in their stoping area. Each stope presents individual problems, and the importance of safe timbering techniques cannot be over-emphasized.

One of the factors taken into consideration in Hollinger's sill removal programme, is the fact that the mine has large tonnages of "near-ore." By their present method of sill removal the accessibility of this ore is being maintained so that if a rise in the price of gold occurs, Hollinger will be in a position to take advantage of it.

Sill floor pillars are accepted by most mining men as having less structural strength than have most other types of ground-shapes encountered in mining. Due to the open areas above and below, and the relatively thin cross section, the pillar is subjected to high stresses which may cause shattering or other failure of the block of ground remaining to be mined. These facts indicate more loose ground and crushing of timber than are found in normal stoping operations.

Experience at the Hollinger over a period of many years has shown fewer accidents occur in operations where the hazards are known to be greater. This is perhaps due to the care exercised in personnel selection and then of establishing a system of checking and control with all personnel involved.

The Inauguration of a Gold Mine

The following article, recently received from our South African correspondent and compiled from statistics collated by the Anglo American Corporation of South Africa, presents interesting facts as to what is entailed in the opening of a new gold mine in the South African fields under current price conditions. Although the article is largely economic in tone, it nevertheless touches on aspects of engineering and social welfare.

Some interesting statistics and information on what is entailed by the opening up of a new gold mine to-day has been collated by the Anglo American Corporation. Total costs are presented at approximately £12,500,000 which is a far departure from the old days of the Central Rand when a major mine could be started on less than £1,000,000. This high figure is based on a milling capacity of 75,000 tons a month, but as the eventual figure in most cases will be double this rate, in the long run further funds will have to be raised in due, either from a share issue or appropriation of profits for this purpose.

BREAKDOWN OF CAPITAL EXPENDITURE

The breakdown of capital expenditure is as follows: shaft-sinking, station cutting and permanent equipment in shafts, £2,500,000; underground equipment and development, £1,500,000; reduction plant, £1,500,000; other surface buildings and equipment, £1,050,000; roads, railways, electric power, water and sewage reticulation, £400,000; large machinery, such as winders and air compressors, £556,000; purchase of mineral rights and company formation expenses, £425,000; salaries, general mine expenditure, geological boreholes and miscellaneous items, £750,000; stock in mines stores, £350,000; head office general capital expenditure, £350,000.

As there is no major town in the new goldfields, the mines have to accept the responsibility and cost of housing the workers. It is estimated that houses for European married miners and a proportion of the joint cost of hostels for single men require £1,750,000. In addition, the proportionate cost for a recreation club for European employees, a hospital for African workers, a hostel for Africans at each mine shaft, and a village for married Africans is approximately £1,250,000. If, however, houses for married Europeans are provided by a company other than the mining company, the total costs can be reduced by £1,450,000 to present a figure of £11,000,000.

Before shaft-sinking started, 94 boreholes were put down on the seven properties of the Anglo American group in the Orange Free State. Of these, 22 failed to intersect the Basal reef, either through faulting, entering igneous intrusions, caving or other reasons.

The probable pay limit in the area was taken as 150 in.-dwt. Of the 72 holes that did intersect the Basal reef horizon, 46 or 63.9 per cent gave values above this limit.

These results indicated that the area justified further prospecting. The normal routine at this stage would have been to sink a series of shafts from which underground development could be undertaken. Depending on the results achieved and the amount of payable tonnages proved, the size of the reduction plant would then have been decided upon and the necessary orders placed.

However, this routine was not followed, as Sir Ernest Oppenheimer took the view that the results from the boreholes made it clear that there would be a number of payable mines in the area. Thus when the shafts were in the early stages of sinking, reduction plants were ordered, townships planned, and all activities appertaining to the full-scale production of a mine were commenced.

This policy was followed by all the other mining houses, and it is now clear from the underground development results on a number of properties that it was the correct one.

IMPORTANCE OF VENTILATION

The Anglo American Corporation, in deciding upon what type of shaft should be sunk had, apart from hoisting capacity, to take into consideration the need for a sufficient quantity of air to provide suitable working conditions under ground. In the Free State the increase in temperature per hundred feet of depth is greater than on the Witwatersrand. The standard shaft in most of the mines of this group has inside dimensions of 46 ft. 4 in. by 10 ft. Using two compartments as upcast, they have an air capacity of approximately 360,000 cu. ft. of air a minute against 11 in. of water gauge.

The original estimates of the cost of sinking a rectangular shaft of this size were about £120 a foot. In practice, the average cost is about £163 a foot, due to slow sinking speeds as a result of intersecting water-bearing fissures requiring cementation, and fractured ground necessitating additional support of the shaft walls.

Owing to the considerable capital required to bring a new mine to production, it is essential that the property should reach the producing and revenue-earning stage as soon as

possible. An important factor in the achievement of this is the ability to carry out underground development at high speed. To do this, it is essential to provide adequate ventilation at development ends. This is being done by driving twin drives, approximately 50 ft. apart, and inter-connecting them about every 500 ft. The twin drives provide an intake and return airway, so that large quantities of fresh air can be provided within 500 ft. of the working face.

In general, greater emphasis has been laid on mechanization in the new mines than on the Witwatersrand, as with the limited supply of both European and African labour, the optimum output per head must be strived for. It is felt that as mechanization increases and the demand for semi-skilled African workers, such as winch-drivers, loader drivers and others also increases, it will be desirable to establish at least a small proportion of African workers on a more permanent basis than that offered by the traditional

migrant labour system.

Villages to house African labourers with their wives and families are being established on a number of the new mines as an experiment. The extent to which this system will be expanded depends on the outcome of the experiment.

Another interesting development is that where a number of mines are so closely situated and under the technical control of the same group as is the case in the Orange Free State, conditions are ideal for certain forms of centralization. The Anglo American Corporation has established a central depot which deals with the operating stores for the mines of the group. All ordering is done by this depot, and each mine carries stock sufficient for its day-to-day requirements. Although still in its early stages, the indications are that the practice will bring about a substantial saving in the amount of stores held, in comparison with the practice of each individual mine carrying its own stock.

Roumania Increases Mineral Production

By JOHN CARDEW

In the following article, the author indicates the growing importance of the mineral industry to Roumania. While oil remains the country's main source of mineral wealth, important deposits of lignite and soft coal exist. There are traditional sources and indications of other minerals which point to a favourable future.

Largely to meet the growing demands of rapidly expanding metallurgical and chemical industries, Roumania has been intensifying mineral production in recent years and current reports from Bucharest claiming that the country's present five-year plan (1951-55) is likely to be completed in four years suggest that mining has advanced a good deal from its pre-war state of backwardness. Improved mining methods, based largely on Soviet equipment and experience, are known to have been widely introduced and the inclusion of geologists, engineers and drilling experts in the latest list of Roumanian state prize-winners follows numerous reports of important new discoveries of oil and ore strata. Last year, it has been announced, non-ferrous metallurgy and non-metal ore mines, as well as the coal and oil industries, all exceeded their production quotas.

MAJOR IMPORTANCE OF OIL

Roumania's principal mineral wealth is, of course, oil. Deposits are the largest in Europe outside the Soviet Union and since exploitation began in 1860 have yielded something like 1,300,000,000 barrels. Before the war, Roumanian wells produced about 9,000,000 tons a year, or rather more than 4 per cent of total world output at the time. After the war production was less than half this volume. Following nationalization of the industry in 1948, large-scale rehabilitation began and two years later, at the end of 1950, crude output was reportedly at the rate of approximately 5,460,000 tons a year. Further increases have been claimed since and Government spokesmen have expressed confidence that a scheduled production of 10,000,000 tons in 1955 will be reached.

The Roumanian deposits are part of the Carpathian sedimentary basin and the richest fields (at Ploesti) are, like the Polish fields, in the deep portion of the basin. The country is generally considered as lying within the rich Mediterranean region centred on the Middle East. The concentration in the Prahova region covers an area of less than 300 square miles in which there are about 25 fields. Apart from Ploesti, principal centres are Campina, Moreni, Baicoi, Tintea, Filipesti and Bustenari.

Roumania has especially large quantities of lignite and soft coal as well as big deposits of pit coal and lesser amounts of anthracite. There are coalfields all over the country with the most important mines in the Jiu Valley. Production is

now at the rate of over 5,700,000 tons a year—or almost double the 1938 figure—which is, however, not sufficient for all the needs of Roumanian industry. Imports come from the Soviet Union and Poland. By the end of 1960, the Roumanian Premier, Mr. Gheorghe Gheorghiu-Dej, announced last year, output is expected to reach 20,000,000-25,000,000 tons annually.

Natural bitumen is also found in Roumania at Derna-Tatarus. Two new installations to extract the bitumen with the aid of solvents are being built under the present five-year plan and are to raise annual production to 16,000 tons.

Iron ore, which is supplemented by Soviet imports, exists in various parts of Roumania and deposits which have been worked the longest are in the regions of Hunedoara, Ghelar, Nadrag and Amina. Plans are to greatly increase the production of Roumanian ore and new deposits are to be opened up during the next few years. Enriching of poor ores by concentration has been developed recently and there has also been greater production of agglomerated ores.

Manganese has for some time been mined in important quantities in Roumania but no indication has been given of post-war production. Mining is restricted to Iacobeni in Bukovina but deposits are also known to exist in other regions. Before the war the ore went mainly to Germany and under the first post-war Roumanian-Czechoslovak trading agreement Roumania sent 5,000 tons of manganese ore to Czechoslovakia. Roumanian manganese ore contains 40-45 per cent Mn and 20-23 per cent silicon dioxide. It is interesting to note that under a £5,000,000 (£2,500,000 each way) trade agreement concluded between Roumanian delegates and British businessmen who attended the economic conference held in Moscow a year ago manganese ore was listed as a Roumanian export. So far the agreement has not been carried out.

TRADITIONAL OCCURRENCES OF GOLD

Gold has been mined in the Western Carpathians since earliest times and the Romans exploited seams by building huge fires to heat the mountain rock and then throwing water on to the red hot mass. The rock then contracted and split, leaving the gold in lumps. Deep mines are still being worked in the region, as well as in the Maramures, and the last known production figure, for 1948, was something over 8,000 kg. of standard gold. The same mines

also yield important quantities of silver, as well as lead. After the war Roumanian lead production was 5,000 tons a year. Output has increased since but a good deal remains to be done before extraction reaches anything like its maximum potential.

There is a limited production of mercury in central Transylvania. Its use as a raw material for Roumanian industry has greatly increased in recent years and corrosive sublimate, calomel, white precipitate of mercury and mercury oxide are all now being offered as exports. The exploitation of copper yielded over 300 tons in 1948 and, like lead, is receiving special attention under plans to achieve far greater self-sufficiency in mineral and metal production. The extraction of chrome began for the first time in Roumania in 1949 and chrome salts are a new export.

Many metals and minerals are exploited in the mountainous regions of Roumania, especially the Western Carpathians, but exhaustive geological surveys of these areas are only now being undertaken. Zinc, sulphur, mica, graphite, asphalt, ozocerite and amber are all produced but it is doubtful whether even all known deposits are yet being fully worked. There are also rich Carpathian deposits of bauxite, until recent times worked on only a small scale by primitive means. According to the provisions of the five-year plan, aluminium production in 1955 is to reach an all-time record of 5,500 tons.

Roumania's deposits of salt are virtually inexhaustible, visible reserves of the seven mines being worked having been described as adequate to meet all home and export requirements for at least half a century. Roumanian rock salt has a 99.3 per cent sodium chloride content. Output under the five-year plan is to reach 620,000 tons a year. Bentonite, the ferro-silicate of aluminium from which activated bleaching clay is made also exists in large reserves in the Banat and Transylvania. The mineral is exported. Other resources of which Roumania has an abundance include limestone, quartz sand, felspar, pyrolusite, selenite, arsenic, anhydrite and gypsum. Deposits of the latter, geologically formed around the Black Sea coast, are now being exploited as part of a general plan to utilize the considerable natural resources of the Black Sea. There is also radio-active mud in the Black Sea shore.

EXPLOITATION OF LOCAL RESOURCES

Exploitation of local resources on a small scale has now assumed considerable importance in Roumania. Although capital for these undertakings is provided by the Government, their output is actually outside the scope of economic plans. Apart from brown coal, deposits of asbestos, sulphur, china clay and guano are now being exploited in this way and are providing the basis for a variety of local industries.

In the field of mining the principal effort under the five-year plan has been officially described as "prospecting, opening up and preparing the country's ever-increasing reserves of ore." By developing existing mines and opening new ones, the production of copper, lead and zinc ores is to be increased nearly threefold compared with 1950. Underground work is being largely mechanized and nine flotation-separation plants for complex ores and a further six enterprises for other non-ferrous ores are to be built and brought into operation by the end of 1955. Other projected new plants include one for hydro-metallurgy of zinc and an aluminium factory that will begin partial operation under the plan and have an ultimate capacity of 25,000 tons a year. Installations are also to be built for grinding talc, washing china clay and preparing graphite. Oil drilling is to increase steadily to reach a level of 1,250,000 metres in 1955, of which 550,000 metres will be prospecting and 700,000 metres exploitation drilling.

REVIEWS

The Eastern Metals Review. — Annual Number. Edited by T. V. Rama Rao. Published in Calcutta. Pp. 230 with illustrations and graphs. Annual subscription 18/-.

The above title heralds a change in name of an old friend, the *Metal Market Review*, which now completes five years of useful existence with the publication of this annual. During this time the parent magazine has played a progressively important part in the Indian metal trade, has become a weekly publication, and has widened its scope.

The articles published in the annual deal with many aspects of the metal trade, and matters covered editorially include geophysical exploration for mineral ores and oil in India, problems of mineral self-sufficiency, the base metal markets in 1952, and of interest in light of recent trades developments an article on the non-ferrous metal industry in Japan. Other subjects discussed include the metal market and free enterprise, as well as India's first five year plan for the iron and steel industry. A useful publication.

Dry Rot and Other Timber Troubles, by W. P. K. Findlay. Published by Hutchinson's Scientific and Technical Publications. Pp. 267 with index and illustrations. Price 25s.

A chapter on decay in mining timbers gives this work a specific interest to the mining engineer. Within these pages the entire aspect of timber decay is explained in non-technical language, to add force to the emphasis laid on the importance of recognizing rot and disease in timber. Methods are outlined for preventing decay in standing trees, for the protection of timber during seasoning and storage, and descriptions are given of types and applications of various wood preservatives.

In his introductory remarks the author speaks of the economic significance of timber pests and diseases, and after describing the nature of wood in some detail, he outlines the causes of deterioration in timber. The work is comprehensive and complete and is of definite value.

The South African Annual Review. A Social and Economic Survey. Published in Johannesburg and obtainable in England from Gordon and Gotch Ltd., 75-79 Farringdon Street, London, E.C.4. Pp. 76. Price 3s. 6d. plus 3d. postage.

A neatly produced magazine in which articles cover all aspects of South African life from gold mining, banking and details of foreign trade to travelogues and sports snippets. Modern building and native housing are discussed, and the general progress of the Dominion is embraced by mention of its manufacturing industry and agriculture. A pleasing publication.

Statistical Summary of the Mineral Industry. Published by the Colonial Geological Surveys Mineral Resources Division. Price 27s. 6d.

The present edition under review covers the seven-year period 1945 to 1951. Comprehensive details are given of the production, imports and exports of approximately 60 minerals and metals, and world totals for certain minerals not previously totalled are incorporated for the first time.

In accordance with previous practice, production tables for copper, lead, tin and zinc show output of ore in terms of metal as well as smelter production. The import and export tables refer not only to the crude minerals, but also to the chief semi-manufactures and in some cases to the principal chemicals and their derivatives.

The Basis of Mine Surveying, by M. H. Haddock. Published by Chapman and Hall. Pp. 301 with index. Price 30s.

The author was formerly principal of Coalville Mining and Technical College and as is indicated by the title of his work under notice, has in this instance devoted his remarks entirely to the basis of mine surveying. Consequently the book is mainly concerned with geometrical and trigonometrical problems.

Chapters deal in turn with the triangle, the polygon, the circle, the subdivision of areas in mining, mechanical methods of computation, resection and countersection, drifting and crosscutting and special problems. No attempt has been made to deal with practical surveying, and an attempt has been made—and successfully—to "embrace the fundamentals covering the manifold aspects of the subject."

MACHINERY AND EQUIPMENT

A Display of Pneumatic Equipment

The display of Holman Bros. Ltd. at the British Industries Fair will occupy Stand 1203/1102 in the Outdoor Section at Castle Bromwich. A range of compressed air equipment is being shown, with many of the exhibits arranged to operate.

Among stationary compressors, TM60R represents the most recent development of the manufacturers' differential piston series. This machine has a heat exchanger incorporated and is independent of any outside source of cooling water. The Holman Tractair 13 will be shown in its latest form, the new Fordson Major with the air-cooled TA13 compressor mounted



The Holpack equipment

on and driven by it. This two-breaker set is now available as well as the smaller output original Tractair 8.

Another unit available for use with a tractor, exhibited for the first time, is the Holpack. This consists, in this instance, of an ATH8 compressor mounted, with air receiver, in a frame arranged for attachment to a power lift on the rear of tractor. For travelling, the Holpack is held in the raised position and, on reaching the working site, is lowered on to the ground. The drive to the compressor is through a telescopic shaft, with a universal coupling at either end, from the rear p.t.o. shaft of the tractor. When the compressor is not required, the Holpack unit is readily detached and the tractor is free for other employment.

The more conventional type of portable compressor will be illustrated by the TA13D, an air-cooled, two-stage compressor which is diesel-engined and mounted.

Several rock drills will be shown including the Dryuctor, and in the show this equipment will be demonstrated operating on a block of Cornish granite. Various rock drill accessories will include the airleg and Holbits and Holsteels.

A.R.L. Production Control Quantometer

In our "Machinery and Equipment" notes published in *The Mining Journal* of March 7, 1952, an account of the A.R.L. Production Control Quantometer was given. This apparatus is an automatic electronic integrating spectograph which T.I. Aluminium Ltd. state can produce a complete analysis of an alloy containing as many as 13 different elements in less than two minutes. This new system of quantity control was introduced by the firm.

We have now received a comprehensive brochure dealing with the products of the company, their fabrication and applications in industry. The brochure summarizes T.I. Aluminium alloys and their relationships to British Standard Specifications.

Flameproof and Industrial Switch Gear

An enterprising pamphlet received from The Belmos Co. Ltd., gives abridged details of the Company's products. The Company has always associated itself with the application of switchgear to coal mining and the increased standards of safety now associated with the industry, and the pamphlet presents a range of the Company's mining and industrial products.

The manufacturers' range of air break gear is presented as covering most applications up to 650 volt A.C. at or near the coal face. Industrial units are the Type S.B.A. circuit breaker unit of 200 amp. capacity and the several types for motor start-

ing. These comprise the PNS, DOR, CSD and RS3, all at 75 and 150 available current rating in amp., and the F.D.O. at 30 amp. The flameproof range was primarily designed for coal mining applications to Group 1, BSS 229.

This equipment is nevertheless reported as finding increasing applications in other industries where the explosion hazard is present, and the majority of the standard units are also covered by Group 2 BSS 229 situations. The units include the DCU single drill unit for standard frequency drills with a capacity of 1.5 kVA, and the coalcutter and conveyor control unit Type GEB automatic gate end unit of 80 amp. capacity.

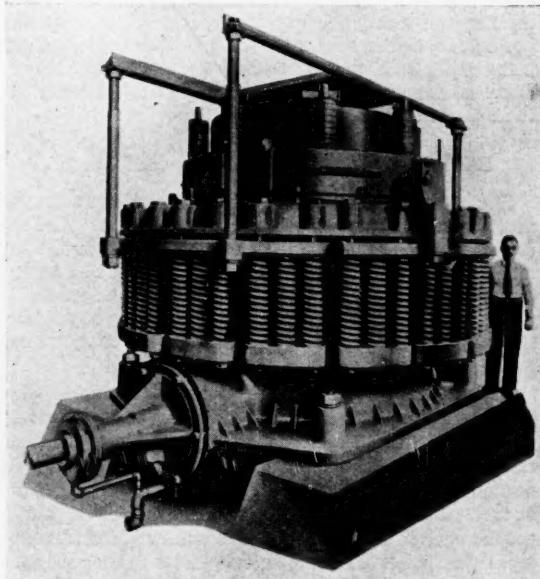
Crushers at the B.I.F.

The Nordberg Manufacturing Company will be inside the building at Castle Bromwich and will be showing working models on Stand D719. Models to be shown include the Symons "F" type horizontal screen, the Symons vibrating bar grizzly, the Symons rod deck screen, the Symons hydrosizer screen and Symons cone crushers. Information on the Symons "V" screen, a new machine in the Nordberg range, will be available on request from the stand.

A working model of the "F" type horizontal screen will be shown. This equipment is available in sizes of 3 ft. to 5 ft. in width and 6 ft. to 16 ft. in length, and may be of single or double deck construction. The Symons vibrating bar grizzly has been developed by the company for heavy duty operation in mines, quarries, cement works, and similar installations. The machine is particularly applicable to modern quarry practice where, by mechanical means, dirt has to be removed to ensure a clean sample.

Sectional models of Symons cone crushers will be on view, illustrating clearly the method of operation of both the standard and short head types in the range.

The Symons rod deck screen has a screen surface composed of rods instead of woven wire mesh or perforated plate. The



The Symons cone crusher

individual spring steel rods are sprung into place and held in position by moulded rubber spacers, and provide a screening surface adapted to handling feeds of wet, sticky and clayey ores on comparatively small openings. The screen is available in 3 ft., 4 ft. and 5 ft. widths, with lengths of 6 ft. and 8 ft., while a totally enclosed housing is furnished as standard equipment. As with the other products to be displayed, a working model of this screen will be on show.

METALS, MINERALS AND ALLOYS

Unfreezing of controls of metals and minerals is still continuing and tends to easing of prices as greater freedom is attained. Coincidentally the relaxing of the international strain appears to be continuing and with it the promise of a progressive return towards pre-Korean price levels. The familiar market dictum "what ever goes up must come down" seems to be the prevailing mood at the moment. Whether Mr. Butler's "incentive" Budget will encourage consumers to come out of their shells remains to be seen.

COPPER.—Among various developments this week probably the most important news is that the N.P.A. has suspended copper allocations and fresh purchases for the national stockpile. Sufficient time, however, has not yet elapsed to show whether these influences will change the hesitation of the United States consumers to enter the market on any substantial scale. The leading producers are still quoting on the basis of "price at time of shipment" which is currently 30 c. for domestic and 32 c. for imported copper, c.i.f. New York. The A.S. and R. have reduced their price to 32 c., the level generally quoted by the smelters who are large buyers of scrap. The Chilean Central Bank announced after a meeting on Monday that the price of 35½ c. is being maintained and demand is said in Santiago to be "satisfactory."

The Ministry of Materials has asked Commonwealth producers to discuss the possibility of a new price for U.K. purchases but as the Ministry has to give a fortnight's notice of such a move it is thought that the formal negotiations will start about towards the end of next week, though preliminary soundings have no doubt taken place. Official ideas are thought to favour a reduction in the present price of 33½ c. at least to the present Congo figure of 32 c. Production of copper in Belgium is expected to decline to possibly some 30,000 tonnes a quarter as against 35,000 tonnes in 1952. Shortage of fuel is having serious effects in the Copperbelt, the only mine continuing full production being Roan, which is down to four days' supply of coal. Nchanga has cut its output by half with only three days' supply of coal left, Nkana has had to cease work at one of its shafts having only a supply for 24 hours and Mufulira, though the smelter is working normally, is only hoisting at half its normal speed with milling operations proportionately reduced. One of the advantages which should result from the Federation of the Central African territories should be the better co-ordination of fuel supplies and transport. Whether such co-ordination can be effected before the Federated State comes into existence, cannot be judged, but it is a possibility. Further negotiations between the companies and the mineworkers' union will be resumed towards the end of this week.

The Copper Institute reports the production of domestic crude copper in March at 99,932 s.tons (83,653 in February). Production of refined was 112,016 s.tons (101,538); Domestic deliveries were 133,462 s.tons (117,204); Stocks at the end of the month were 55,807 s.tons (60,944). Production of crude outside the U.S. in March was 120,006 s.tons (118,589 in February). Refined output was 104,926 s.tons (88,539), and was the highest total since June last. Refined stocks at the end of the month were 133,267 s.tons (122,223).

LEAD.—Lead has again declined since our last and was quoted on Wednesday at £80½ for prompt and £78½ for three months.

In New York the price has been cut to 12½ c. The market has been dull with very moderate demand. Mr. K. C. Brownell, at the meeting of the Federal Mining and Smelting Company at which a merger with the A.S. and R. was approved, said that so far there has only been a moderate curtailment in the lead output.

TIN.—The tin slump has continued this week with three months at one time down as low as £680 a ton. In the U.S., despite offerings down to 99.5 c. per lb. buyers appear to be still holding off. At current price levels world production cannot but be affected, though it is too early yet to judge whether to an extent sufficient to bring consumption and output into balance and so give a sound basis to the market in the future. The Bolivian export in January was 1,469 tonnes but how the industry is bearing up against the recent slump there is nothing as yet to show. The Longhorn output in March

continued high at 3,850 tons making 11,250 tons for the first quarter as compared with 5,402 tons in the first quarter of last year. This increase suggests that Indonesia and other countries are responsible for an increased proportion of the total output. Shipments of tin concentrates to the Straits Smelters in March totalled 569 tons—511 from Thailand, 49 from Burma, 6 from Indo-China, and 3 from elsewhere. It is reported from Brussels that the out-turn of tin in Belgium will not exceed 2,000 tonnes quarterly as compared with 2,600 tonnes last year. The chairman of the Pacific Tin Consolidated Corporation recently gave the ore reserves of his company at some 19,000 s.tons including ground still not accessible for mining owing to the activities of the Communists and the company has judged it necessary to undertake investigation of fresh ground outside Malaya, though no fresh land has yet been taken up. Last year's output was approximately 2,200 s.tons. How far the estimate of reserves has been affected by the recent tin slump, there is at present no opportunity for judging.

The *Financial Post* of Toronto states that a large complex ore body near Bathurst, New Brunswick, also carries tin. The late Professor E. H. Davison from the Camborne School of Mines examined some tin deposits in Nova Scotia after the First World War but they were judged too low grade to be economic.

The New Brunswick deposit appears to be something quite different and the association of tin with copper-lead-zinc minerals rather suggests the possibility that the tin may exist in the form of stannite rather than cassiterite, especially as it is suggested that the treatment may be by "new revolutionary chemical processes" which would short circuit all intermediate concentrating. On the basis of extended bulk sampling of drill cores it has been computed that some 30,000,000 tons of base metal ores may be available down to the 1,000 ft. level. Brunswick officials are said to be envisaging a 5,000 tons a day mill from which 10 tons of tin could be obtained daily, say 3,000 tons a year.

ZINC.—Zinc has again weakened in London and stood at £71½ per ton for prompt and £72½ for forward on Wednesday. In the United States the price is still 11 c. East St. Louis. Mr. Brownell told the shareholders of the Federal Mining and Smelting Company that there has been already a fair sized reduction in the output of zinc both in the U.S. and abroad as a result of the fall in prices and he did not anticipate much further decline.

ALUMINIUM—The Reynolds Metals Company has now finished dredging a deep channel through Corpus Christi Lake to enable ocean-going ships to dock at their La Quinta alumina plant adjacent to their San Patricio reduction works, thus bringing the loading point in Jamaica within 3½ days of the point of discharge.

Production of aluminium is steadily growing in the U.S. and the February output is the highest ever recorded amounting to 92,649 s.tons as compared with 89,895 in January. Water supplies increased somewhat, which no doubt partly accounts for the gain. Power shortage was again experienced in the North-West in the current month and may impose a temporary small reduction. The U.S. output last year was 937,330 s.tons with imports 126,866 s.tons. Austrian production in January amounted to 1,691 tonnes which was slightly less than in December and was about 2½ times greater than in January, 1952. Total Austrian production last year was 36,500 tonnes.

MANGANESE.—The United States continues to contract ahead for manganese supplies. In addition to contracts arranged with small Mexican producers recently reported negotiations are proceeding between the United States Steel and French Companies to explore the manganese deposits in Gabon (French West Africa). The Steel will hold a 49 per cent interest in the combine and it is understood to have undertaken to buy 300,000 tons yearly when commercial production starts, but this may not be till 1960. At the present time the U.S. is computed to be using +2,000,000 of manganese yearly, 90 per cent of it being imported. Studies continue to be made with a view to working out methods for the economic treatment of low grade deposits, particularly wad in Virginia, Arkansas and Maine, as well as of the manganiferous iron ores of the Cuyuna range.

SULPHUR.—The Sulphur Committee of the International Materials Conference has announced that its member governments have agreed to the dissolution of the Committee on April 30, 1953. This announcement follows the Committee's recent decision to discontinue international allocation of crude sulphur as from March 1 and reflects the continuing improvement in the supply and demand position of sulphur in the "Free World."

TUNGSTEN.—Both the United States government and the Ministry of Materials are out of the market and with both producers and consumers looking on from the side lines there is nothing significant to report this week. Any business passing seems to be around the lower level of world prices which are still called 310s.-320s.

URANIUM.—Considerable activity characterizes prospecting for uraniferous minerals in Australia. The Government has offered a reward of £800 tax free for any discoveries of uranium deposits warranting further investigation. Further rewards will be forthcoming proportionately to the proved value of the deposit. Radio-active minerals are said to have been discovered by a Government Geological Survey Party in the Broken Hill district of New South Wales. The first shipment of uranium ore from Rum Jungle has been handed over to South Australian refiners, the field is reported to be in regular production.

Iron and Steel

Production of pig iron reached a new record level in March and the output of steel ingots and castings was only very slightly less than the peak figure of the preceding month. These achievements suggest that, although the holidays will depress outputs in the summer months the target figure of 17,500,000 tons of steel for 1953 may be a conservative estimate.

The supply position is certainly very much easier. Production of plates and heavy sections is still insufficient to meet the demand, but shortages of other types of steel have been overcome to a great extent. Makers have considerably reduced their backlog and deliveries are rapidly overtaking the requirements of many important industries. These altered circumstances have given rise to renewed speculations concerning the early abolition or modification of the allocation system which has become more a hindrance than a help in securing the equitable distribution of supplies. It is believed that this system cannot much longer survive, although special arrangements may have to be made to control the share-out of inadequate supplies of steel plates.

Expansion of the export trade in iron and steel has thus far fallen short of anticipations. The import restrictions are still a limiting factor and moreover keener European competition is developing. By reducing the export prices of merchant bars and light sections British steel makers have narrowed but have not wholly eliminated the disparity between U.K. and European quotations. On the other hand for other classes of steel products British prices are fully competitive and some good orders have been booked for sheets to be shipped to Canada and U.S.A.

There has been a rather pronounced recession in the foundry trade during the past few weeks. In some cases short time is now being worked and at others orders are completed more rapidly than they can be replaced. Re-rollers on the other hand find their activities restricted by the dearth of billets and as home deliveries cannot be accelerated, imports on a considerable scale are still necessary.

The London Metal Market

(From Our Metal Exchange Correspondent)

The copper price situation is still very confused, as although European producers are offering copper to the New York market at about 32 c. per lb. c.i.f., the Chileans have announced that they have no intention of reducing their existing price level of 35½ c. per lb. f.o.b. In the U.K. the Ministry has given notice to the representatives of the Empire copper companies that they wish to have discussions about the domestic price, and as the present European price level is some £25 below the U.K. price it is hoped that a reduction may be agreed.

The turnover in the lead market has been above average, but in spite of this the price has remained steady with moderate demand until Wednesday, when the market broke under selling pressure which was reflected in a reduction in the American

quotation on the same day.

The zinc market, after a period of relative inactivity, came to life early in the week, but in this case the increased turnover brought a weak undertone: dealers are pleased to see the contango developing on this metal, and it will not be long before the market is fulfilling one of its major functions—that of carrying stocks.

Tin has occupied the centre of the stage with further spectacular drops in price, and it would not be surprising to see this go a little lower before the inevitable rebound occurs. The sharp break which was touched off by the better political atmosphere has been aggravated through a large part of the trade in Straits tin to the U.S. being in the hands of continental merchants more interested in the financial operations connected with the transactions than with the tin business itself, and these firms now find they cannot sell their tin in America so that sales are having to be made in London. Simultaneously their activities have been hampered by the rapid rise in the rate of transferable sterling. The Eastern price on Thursday morning was equivalent to £734 per ton c.i.f. Europe.

Closing prices and turnovers for the week are given in the following table:

	April 9 Buyers	April 9 Sellers	April 16 Buyers	April 16 Sellers
Tin				
Cash	£825	£835	£730	£735
Three months	£802½	£807½	£720	£725
Settlement	£830		£730	
Week's turnover....	470 tons		1,480 tons	
Lead				
Current month	£851	£85½	£81	£81½
Three months	£82½	£82½	£78½	£78½
Week's turnover....	4,600 tons		6,375 tons	
Zinc				
Current month	£75	£75½	£70½	£70½
Three months	£75½	£76	£71½	£71½
Week's turnover....	2,975 tons		5,050 tons	

APRIL 16 PRICES

COPPER

Electrolytic £280 0 0 d/d

TIN, LEAD AND ZINC
(See our London Metal Exchange report for Thursday's prices)

ANTIMONY

English (99%) delivered,
10 cwt. and over £225 per ton
Crude (70%) £210 per ton
Ore (60% basis) 20s. — 22s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) £483 per ton
OTHER METALS
Aluminum, £161 per ton
Bismuth (min. 4 cwt. lots) 17s. lb.
Cadmium (Empire), 14s. 4d. lb.
Chromium, 6s. 5d./7s. 6d. lb.
Cobalt, 20s. lb.
Gold, 248s. f.oz.
Iridium, £60 oz. nom.
Magnesium, 2s. 10d. lb.
Manganese Metal (96%-98%) £280/£295
per lb.
Silver 74d. f.oz. spot and f.d.
Tellurium, 18s./19s. lb.

ORES, ALLOYS, ETC.

Bismuth 40% 6s. 9d. lb. c.i.f.
30% 5s. 6d. lb. c.i.f.
Chrome Ore—
Rhodesian Metallurgical (lumpy) £14 18s. per ton c.i.f.
" (concentrates) £14 18s. per ton c.i.f.
" Refractory £14 10s. per ton c.i.f.
Baluchistan Metallurgical £16 11s. 6d. per ton c.i.f.
Magnesite, ground calcined .. £26 - £27 d/d
Magnesite, Raw £10 - £11 d/d
Molybdenite (85% basis) .. 103s. 10½d. per unit c.i.f.
Wolfram (65%) World buying 310s. - 320s.
352s. 6d. Selling
Scheelite 342s. 6d. Selling
Tungsten Metal Powder 30s. 8d. nom. per lb. (home)
(for steel manufacture)
Ferro-tungsten 25/3-25/9 nom. per lb. (home)
Carbide, 4-cwt. lots £35 13s. 9d. d/d per ton
Ferro-manganese, home £49 15s. 0d. per ton
Manganese Ore U.K. (48%-50%) 6s. 1d. per unit
Brass Wire 2s. 7½d. per lb. basis
Brass Tubes, solid drawn 2s. 1½d. per lb. basis

THE MINING MARKETS

(By Our Stock Exchange Correspondent)

During most of the week, markets were naturally quiet in anticipation of the budget and the South African elections. The day before the Chancellor spoke there was a sudden access of confidence and prices hardened. The budget itself was very well received in the City. The immediate results was the marking up of gilt-edged and steady buying of government stocks throughout the day. Many calculations were made to see how individual companies will benefit from tax relief. Concerns which have shown rapid developments since the war will clearly show a much larger dividend cover than hitherto. The main advantage, of course, will be that much more money can be put aside for the replacement of equipment. The purchase tax reductions were viewed with rather more doubt. After an initial burst of optimism, a more cautious mood reigned. Many consumer goods are still very expensive and after pent up demand has been satisfied, retail sales may well decline again.

Kaffir shares were rather featureless. The election takes place as we go to press and the effect of the result on the market will have to be reported next week. The free price of gold has continued to trickle downwards due mainly to the conviction that the New American administration will make no change in the U.S. official buying price at the present time. Market circles remain convinced, however, that the U.S. will retain devaluation up their sleeve as a measure to fight any major depression in the States.

West Africans were, of course, one of the main beneficiaries from the new tax relief and Ashantis rose sharply before encountering some profit-taking. Ariston followed this lead, but Bibiani fell following the report and accounts. The Ashanti report reveals that developments of the mine have been most satisfactory but that some time must elapse and money be expended before shareholders can feel the benefits. The public reaction to the tax changes in this market will probably take a day or so to develop. Interest was aroused in Konongo. The mine is opening up the Zongo reef at depth from which

results are understood to be satisfactory.

Among Western Australian mines, Great Boulder Proprietary attracted attention in a rather limited market. The company is paying a final dividend of 6d. making a total of 1s. for 1952 compared with a total distribution of 6d. for 1951.

Diamond shares recovered from last week's low levels. Belated public reaction of the latest sales figures brought in buying which found the market ill supplied with stock.

Coppers were uncertain in the face of the Ministry of Materials notice for price revision at the end of 15 days. There were, however, several steady factors in this market. Roan Antelope, Mafulira, and Rhodesian Selection Trust are all maintaining their dividend. Messina, which had earlier been weak, raised its interim distribution from 150 per cent to 200 per cent and the shares shot ahead. Chartered were better on the tax reliefs in the budget which affect companies operating overseas.

Eastern tin shares were neglected and rather erratic due to the heavy fall in the metal price. Among Nigerian mines, some recovery was evident. Uneasiness was chiefly felt by Amalgamated Tin Mines of Nigeria which is the largest tin producer in the group. Columbite production is a major factor and mines producing it are a much steadier market.

Lead/zinc shares closed above recent low levels but bear closing can probably account for most of the improvement. Prices of the metals continued to ease off in sympathy with tin.

Among miscellaneous base metal mines, manganese and asbestos shares returned to popularity, recording good gains. Wankie eased following reports that the Northern Rhodesia copper belt is again short of coal.

Dollar issues recorded trans-atlantic malaise and closed fractionally lower.

Oil shares, after their recent fall, encountered some cautious investment buying on the cheerful budget and all major counters moved upwards.

	<i>Price April 15</i>	<i>+ or -</i>	<i>Price April 15</i>	<i>+ or -</i>	<i>Price April 15</i>	<i>+ or -</i>	<i>Price April 15</i>	<i>+ or -</i>	<i>Price April 15</i>	<i>+ or -</i>
FINANCE			O.F.S.		Price April 15		TIN (Nigerian and Miscellaneous contd.)		Price April 15	
African & European..	2½	+ ½	Freddies ..	15/4	- 1d	St. John d'El Rey ..	28/1	+ 1/2	Geevor Tin ..	10/7½
Anglo American Corpn.	6½	- ½	Freddies N ..	14/9	- 1d	Zams ..	28/9	+ 7d	Gold & Base Metal ..	4/-
Anglo-French ..	18/9	- 1d	Freddies S ..	14/7½	- 3d	Jantar Nigerin ..	12/6	-	Jantar Tin Area ..	13/-
Anglo Transvaal Consol.	26/3	- 1/3	F. S. Geduld ..	3½	+ ½	Kaduna Prospectors ..	3/-	-	Kaduna Syndicate ..	3/-
Central Mining (£1 shrs.)	33/9	-	Geoffries ..	19/-	-	London Tin ..	5/-	-	London United Tin ..	2/6
Consolidated Goldfields	49/-	- 1/2	Harmony ..	27/-	+ 1/4	Pots Platinum ..	8/1½	+ 1d	SILVER, LEAD, ZINC	-
Consol. Mines Selection	26/9	- 1/3	Lorraine ..	10/3	+ 6d	Waterval ..	14/6	- 6d	Broken Hill South ..	41/3
East Rand Consols ..	3/9	- 1d	Lydenburg Estates ..	14/-	+ 6d	Chartered ..	52/3	+ 1/3	Burma Mines ..	1/104
General Mining ..	4½	-	Merriespruit ..	6/4½	+ 1½d	Esperanza ..	4/1½	+ 1d	Consel. Zinc ..	25/3
H.E. Prop. ..	41/3	-	Middle Witt ..	18/3	+ 3d	Indian Copper ..	4/3	- 1d	George ..	10/6
Henderson's Transvaal ..	8/½	-	Ofists ..	41/3	-	Messina ..	3½	+ 1½d	Mount Isa ..	33/9
Johnnies ..	65/3	- 1/2	President Brand ..	24/-	+ 1/2	Rhanga ..	5½	-	New Broken Hill ..	18/9
Rand Mines ..	25/3	- 1/2	President Steyn ..	25/1½	+ 1/4	Rhodesia ..	44/10½	- 6d	Rhodesian Broken Hill ..	51/3
Rand Selection ..	35/-	- 1d	St. Helena ..	14/6	+ 3d	Rhodesian Selection ..	9½	- 3d	San Francisco Mines ..	23/1½
Strathmore Consol. ..	43/6	- 2/2	Virginia Ord. ..	14/1½	+ 4d	Rhokana ..	14/1	- 3d	Uruwira ..	3/6
Union Corp. (2/6 units)	30/9	-	Welkom ..	22/4½	+ ½	COPPER	21/3	-	MISCELLANEOUS	-
Vereeniging Estates ..	2½	-	Western Holdings ..	3½	+ ½	Chartered ..	52/3	+ 1/3	BASE METALS & COAL	-
Writs ..	35/-	-				Esperanza ..	4/1½	+ 1d	Amal. Collieries of S.A. ..	45/6
West Wits ..	46/3	-				Roan Antelope ..	13/-	-	Associated Manganese ..	43/6
BAND GOLD			WEST AFRICAN GOLD			Selection Trust ..	33/9	-	Cape Asbestos ..	21/3
Blyvoors ..	43/2	-	Amalgamated Banket ..	17½	-	Tanks ..	56/10½	-	C.P. Manganese ..	54/6
Bultfontein ..	12/7½	-	Ariston ..	6½	+ 3d	Tharsis Sulphur Br. ..	47/6	-	Consol. Murchison ..	26/9
City Deep ..	24/4½	-	Ashanti ..	25/-	+ 1/6	TIN (Eastern)	21/3	- 7d	Dome ..	\$37½
Consol. Main Reef ..	26/10½	-	Bibiani ..	6/4½	- 1d	Ayer Hitam ..	6/	-	Hollinger ..	\$26
Crown ..	36/10½	-	Bremang ..	2/4½	- 1d	Bangrin ..	6/	+ 4d	Hudson Bay Mining ..	\$94½
Daggas ..	3/6½	-	G.C. Main Reef ..	3/9	+ 1/2d	Gopeng ..	8/7½	+ 1d	International Nickel ..	\$73½
Doornfontein ..	26/9	-	G.C. Selection Trust ..	7/-	+ 1d	Hongkong ..	7/6	-	Minin Corp. of Canada ..	\$44½
Durban Deep ..	46/10½	-	Konongo ..	3/3	+ 4d	Ipoth ..	15/-	-	Northornd ..	\$133
E. Daggas ..	18/6	-	Lyndhurst Deep ..	1/4½	-	Kamunting ..	5/-	-	Quemont ..	6½
E. Rand Progs ..	37/6	-	Marlu ..	1/1½	-	Kinta Tin Mines ..	10/6	- 6d	Yukon ..	4/12
Geduld ..	3/2	-	Taqua & Abosso ..	3/9	-	Malayan Dredging ..	24/10½	-	CANADIAN MINES	-
Govt. Areas ..	44	-				Pahang ..	14/6	-	Dome ..	\$37½
Grootvlei ..	13/9	- 3d	AUSTRALIAN GOLD			Pengkalan ..	7/6	-	Hollinger ..	\$26
Libanon ..	25/3	- 9d	Boulder Perseverance ..	2/3	+ 1d	Petaling ..	9/10½	- 1d	Hudson Bay Mining ..	\$94½
Luipaards Vlei ..	13/1½	-	Gold Mines of Kalgoorlie ..	10/9	-	Rambutan ..	11/9	+ 6d	International Nickel ..	\$73½
Marievale ..	27/3	- 1d	Great Boulder Prop. ..	7/6	+ 3d	Siamese Tin ..	17/9	-	Minin Corp. of Canada ..	\$44½
Modderfontein East ..	21/6	-	Lake View and Star ..	15/3	-	Southern Kinta. ..	13/-	+ 6d	Northornd ..	\$133
New Kleinfontein ..	18/9	-	Mount Morgan ..	18/-	-	S. Malaya ..	13/-	-	Quemont ..	6½
New Pioneer ..	25/9	-	North Kalgoorlie ..	12/-	-	S. Tromb ..	10/3	- 6d	Yukon ..	4/12
Randfontein ..	45/	- 2/2	Sons of Gwalia ..	6/6	-	Sungai Kinta. ..	15/-	-	OL	-
Robinson Deep ..	10/6	-	South Kalgoorlie ..	7/6	+ 3d	Tekka Taiping ..	5/9	- 3d	Anglo-Iranian ..	5½
Rose Deep ..	15/7½	-	Western Mining ..	12/-	-	Tronoh ..	20/7½	+ 7d	Apex ..	42/6
Simmer & Jack ..	5/7½	-						-	Attock ..	27/6
S.A. Lands ..	28/9	-	MISCELLANEOUS GOLD					-	Burmah ..	45/-
Springs ..	6/4½	-	Cam and Motor ..	9/3	+ 1d			-	Canadian Eagle ..	33/-
Stillfontein ..	29/6	-	Champion Reef ..	5/-	-			-	Shell (bearer) ..	4½
Sub Nigel ..	2½	-	Falcon Mines ..	7/4½	-			-	T.P.D. ..	25/3
Van Dyk ..	10/6	-	Globe & Phoenix ..	25/9	-			-	Ultramar ..	23/6
Venterspost ..	16/9	- 3d	G.F. Rhodesian ..	5/7½	-			-		+ 1/3
Vlakfontein ..	16/3	-	London & Rhodesian ..	4/7½	-			-		
Vogelstruisbaai ..	34/6	- 3d	Motapa ..	2/6	-			-		
Wes Driefontein ..	7½	-	Mysore ..	3/-	-			-		
W. Rand Consolidated ..	59/9	-	Nundydroog ..	5/9	-			-		
Western Reefs ..	49/9	-	Oregum ..	3/1½	-			-		
		-	Oroville ..	10/6	-			-		

COMPANY NEWS AND VIEWS

Ashanti Takes Capital Expenditure Programme In Its Stride

A series of unofficial strikes, the most serious of which occurred in July last and continued for 12 days, put an end to the hopes of the Ashanti Goldfields Corporation to produce 180,000 oz. of gold during the year to September 30, 1952.

Year to Sept. 30	Milled s.tons (000)	Grade (dwt.)	Yield (oz.)	Costs per ton*	Ore Reserves Tons (000)	Grade (dwt.)
1952	226,971	16.2	165,913	85 3	1,410.4	18.8
1951	237,637	17.2	188,339	71 9	1,506.9	18.4

* Including development charges of 14s. 6d. (1951—13s. 10d.)

As can be seen from the above table gold production declined by 22,246 oz. reflecting the lower tonnage throughput and the drop in the grade of ore sent to the mill. Working costs, mainly due to increase in African wages, rose sharply from 57s. 11d. to 70s. 9d. and as a result mining costs on a slightly smaller tonnage were nearly £115,000 higher at £967,586.

Year to Sept. 30	Bullion Proceeds* £	Mining Costs £	Tax† £	Net Profit £	Dividend %	Carry Fwd. £
1952	2,165,483	967,586	718,127	336,765	50 167,137	
1951	2,359,642	852,857	1,003,412	379,802	50 226,909	

* Less realization charges and after adjustment of opening and closing of bullion stock.

† Including Gold Coast Government Royalty and Gold Duty.

Tax attracted was lighter partly due to the change in the basis of assessment following last year's Finance Act, and partly to the lower profits, although this year's figure included £30,000 for E.P.L.

The dividend was maintained at 50 per cent, after taking a further £25,000 for fixed assets replacement and £14,218 for pensions, although to effect this it was necessary to take £59,772 from the balance brought forward—£29,573 being accounted for by African gratuities in respect of earlier years.

The weighty programme of development and capital expenditure now being carried out at the mine exerts a heavy strain on the company's finances in view of which the chairman said that it was necessary to ensure that adequate resources were available in the next few years to meet these commitments. Although this programme necessarily entails shifting a perceptible percentage of the available factors of production, the monthly returns for the first six months of the year, shown elsewhere in these columns, reveals that working profits are at a moderately higher level than in the corresponding period of the year under review.

There are then fairly good grounds for taking an optimistic view of the company's prospects; the mine is opening up very well indeed and should the gold premium be maintained to give a premium of about £1 per oz. as it has done since May, 1952, this should prevent working costs cutting too deeply into earnings.

Major General Sir Edward Spears is chairman. Meeting, London, May 6.

Bibiani To Build Up Its Reserves

The report and accounts for the year ended September 30, 1952, of Bibiani (1927) showed that the year was one of steady progress with output comfortably maintained. The lower grade of ore treated was largely offset by the increased tonnage throughput which established a new high record, but gold production was down by some 3,000 oz. compared with the preceding year.

Year to Sept. 30	Milled s.tons (000)	Grade (dwt.)	Yield (oz.)	Costs per ton*	Ore Reserves Tons (000)	Grade (dwt.)
1952	363.3	4.4	71,440	37 8	1,766.2	5.4
1951	352.6	4.6	74,868	35 6	1,764.3	5.4

* Including development charges of 3s. 3d. (1951—2s. 10½d.)

Bullion proceeds actually amounted to £933,191 compared with £925,707 but owing to the greater costs of selling the gold on the free market, bullion realization charges rose from £3,538 to £11,349 so that net proceeds came out a lower figure than in the previous year. Tax liabilities decreased, owing to

the fall in profits and also, in the case of profits tax, because of the change in the method of charging introduced by the 1952 Finance Act. No liability is expected in respect of E.P.L.

Year to Sept. 30	Bullion Proceeds* £	Mining Costs £	Tax† £	Net Profit £	Dividend %	Carry Fwd. £
1952	921,842	685,192	52,040	107,937	17.5	198,839
1951	922,169	625,755	110,638	111,474	20.8	181,669

* Less realization charges and after adjustment of opening and closing of bullion stock.

† Including Gold Coast Government Gold Duty.

Major General Sir Edward Spears, chairman, in his statement accompanying the accounts, said that the board regretted the need to reduce the dividend, but the results for the year, reflecting as they did higher mining costs and the company's financial position, after meeting the essential needs for equipment and development, made the distribution of 17½ per cent the maximum that could be recommended.

Of particular importance has been the success attending the company's efforts to improve the underground stoping position so that a greater proportion can be mined from underground sources. Since the end of the financial year, progress in this regard has been good and the chairman said the company expected to maintain a monthly gold output of 6,250 oz. as from February. This figure was, in fact, surpassed in March, as the March mine returns of the West African gold producers shown elsewhere in these columns testify. Development footage advanced again showed an increase, this time from 28,300 ft. to 30,781 ft. Of this footage, very good results were obtained on level 18 where 80,000 tons of 8.35 dwt. ore were proven and taken into the ore reserves.

Shaft sinking and development operations, while proceeding satisfactorily, have been a drain on the company's resources and it is the intention of the company to concentrate on building up its reserves. Just how much of a strain on the company's resources these operations have been may be judged by the fact that the company realized its holdings in British Government securities to meet the heavy expenditure necessary and cash balances at the year-end were reduced from £146,247 to £33,154. On the other hand, stores and plant stand in the balance sheet at the high figure of £436,679 and since the end of the financial year it has been decided to reduce these holdings to more normal levels which will result in an improvement in the cash position. Net current assets at September 30 last stood at £366,580. Meeting, London, May 6.

General Mining Again Pays 25 Per Cent

The preliminary profit statement issued by General Mining and Finance Corporation giving an outline of the financial results for the calendar year 1952 showed that a final dividend of 3s. per £1 share, or 15 per cent, is recommended, making 25 per cent for the sixteenth year in succession. The dividend will be paid on, or about, June 5.

Profit for the year, subject to final audit, was £611,402, compared with £726,532 in 1951 which was struck after writing down stocks and shares where necessary. The amount required to write down stocks and shares to market value during 1952 was £240,332, of which £115,332 was appropriated from profits and the balance of £125,000 taken out of the investment reserve of £450,000. The dividend distributions on the preference and ordinary shares absorbed £430,415 against £419,321, leaving the carry forward at £156,603, compared with £166,714 brought in. Sir George W. Albu is chairman.

Rand And O.F.S. Returns For March

Owing to the longer month and the gold price being slightly higher at 24s. 10d. per oz., the Rand and O.F.S. producers were, in general, able to report larger tonnages crushed and as a result lower working costs.

Brakpan Mines in February, it may be recalled, was only able to show a profit of approximately £7,000, but this month it reverted to its more usual form and showed a working profit of £25,560 which compares with a working profit of £24,614 in January. Other mines announcing good results were Daggafontein, East Geduld, Grootvlei, Blyvooruitzicht and East Rand Proprietary.

Of the new mines West Driefontein announced record profits of £217,594. St. Helena, Welkom, and Stilfontein also achieved record profits.

Company	March, 1953			Current Financial Year			Last Financial Year		
	Tons (000)	Yield (oz.)	Profit (£'000)	Total to Date			Tons (000)	Yield (oz.)	Profit (£'000)
				Total	Yield	Profit (£'000)			
Gold Fields									
Libanon	82	16,411	42·2	J 738	147,604	376	717	135,366	329
Lupusvlei	103	19,273	47·9	J 911	171,701	438	890	165,256	472
Rietfontein	27	3,550	26·3	D 78	17,409	76	81	17,849	84
Robinson	95	8,188	13·8	D 286	53,566	37	332	53,322	29
Summer J.	123	20,376	15·1	D 365	58,906	41	369	58,699	53
Sub Nigel	66	22,776	112·2	J 592	203,950	1,030	597	209,266	1,150
Venterspoort	99	23,389	60·5	J 107	39,244	211	109	40,680	233
Vlaafontein	36	13,232	70·7	D 69,993	278	232	59,912	225	
Vogels	94	23,806	95·6	D 276	1,348	41	12,890	21	
West Drie †	38	26,977	217·6	J 265	176,121				
Anglo-American									
Brakpan	117	20,913	25·6	D 336	60,058	57	335	62,138	115
Daggafontein	220	52,038	340·3	D 656	155,252	1,019	685	163,849	1,164
E. Daggafontein	89	15,745	50·1	D 260	45,656	144	285	51,259	199
S. A. Lands	100	18,263	53·0	D 299	54,329	159	328	59,153	218
Springs Mine	151	20,805	15·1	D 443	61,268	38	481	63,237	51
Welkom	60	11,861	16·0	D 167	32,832	41	118	15,900	L 102
Western	109	22,548	84·5	D 318	65,689	247	321	67,800	306
Central Mining									
Blyvoor	101	60,662	502·7	J 924	557,611	4,740	973	619,818	5,573
City Deep	164	30,769	26·3	D 472	91,610	76	457	91,722	84
Consol M.R.	175	24,167	17·1	J 592	223,503	218	712	233,852	387
Crown	271	43,086	37·0	D 776	125,240	113	784	129,218	91
D. Roodepoort	188	32,421	92·9	D 537	92,303	246	525	90,118	237
East Rand P.	185	40,632	102·1	D 545	119,354	295	617	134,627	490
Modder B.	57	5,941	3·7	D 159	17,510	8	169	18,508	22
Modder E.	115	13,401	18·7	J 1037	119,813	188	1061	124,319	280
Rose Deep	74	11,072	8·0	D 215	31,757	17	249	34,279	36
Welgedacht	34	4,324	4·5	J 303	37,483	40	304	35,774	36
J.C.I.									
East Champ	26	4,281	3·1	D 76	12,436	11	91	14,387	26
Govt. G.M.A.	246	33,823	60·0	D 726	98,151	180	663	97,529	147
New State	31	4,968	1·0	D 106	15,820	3	128	19,962	3
Randfontein	320	40,029	30·1	D 920	119,395	90	1042	126,115	85
Wit Gold	56	6,216	L 9·0	D 170	19,764	L 6·5	177	20,874	7
East Geduld	136	40,792	30·3	D 400	119,994	887	432	129,606	1,025
Geduld Prop.	95	15,222	35·8	D 293	45,440	97	314	45,562	115
Grootvlei	190	40,567	245·7	D 545	116,889	698	573	124,410	791
Marievale	64	15,695	69·4	D 178	44,088	198	180	44,972	211
St. Helena	62	12,325	17·6	D 181	36,063	50	130	25,413	5
Van Dyk	92	14,748	6·1	D 274	44,125	17	317	46,173	37
General Mining									
S. Roodepoort	27	6,207	24·0	J 243	55,461	208	244	54,455	203
W. Rand Con.	230	32,439	98·0	D 672	94,995	299	613	95,735	353
Anglo-Transvaal									
N. Klerksdorp	10	1,381	1·1	D 31	4,126	3	32	3,623	3
Rand Leases	166	28,499	31·1	J 1559	263,863	425	162	277,484	725
Village M.R.	34	5,320	13·0	J 304	47,592	309	47,683	158	
Others									
N. Kleinfontein	110	14,150	30·0	D 318	41,158	87	309	40,729	391
Sparwater	10	2,381	L 3·0	D 31	7,064	L 9	31	7,036	L 10
Stilfontein	62	16,900	78·1	D 174	46,207	206	—	—	—
W. Nigel	17	—	8·0	J 151	—	69	89	—	—

Notes.— Profit figures are in all cases figures of working profit excluding profit from sale of gold at premium prices. In case of groups marked with an asterisk (*) profit includes sundry revenue. Profit figures preceded by L indicate a loss. † West Drie.—Production commenced last February.

"Geoffries" Abandon Remaining Options in O.F.S.

The report and accounts of General Exploration Orange Free State for 1952 showed that a loss of £5,438 (loss £7,432) was incurred in the year's operations raising the debit balance carried forward from £31,942 to £37,380. The sum of £80,690 was transferred from general reserve to the appropriation account to accommodate the writing off of expenditure covering drilling, prospecting and option monies on areas abandoned during the year, and to reduce the book value of investments to their market value as at the end of 1952.

During 1952, owing to the unfavourable drilling results obtained, it was decided to abandon the remaining options over mineral rights held in the Orange Free State when they came up for renewal. The majority of these option contracts were over areas in the Bothaville and Kroonstad Districts in respect of which agreement had been reached with Central Mining Free State Areas, Transvaal Mining and Finance and Lydenburg Platinum for their joint exploration and possible exploitation.

The directors in their report also state that the company's right to subscribe for 150,000 shares in Odendaalsrus Gold General Investments and Extensions Ltd. were not taken up.

Sir George W. Albu is chairman. Meeting, Johannesburg, May 5.

West Rand Consol's Good Uranium Profits

Gross revenue of West Rand Consolidated Mines for 1952 amounted to £5,375,839, compared with £5,418,250 in the preceding year. An analysis of the total revenue received from all sources during the past two years is summarized in the following table.

Analysis of income for 1951 and 1952

Year to Dec. 31	Gold	Uranium	Pyrites	Osmiridium	Silver	Other Revenue
1952	£ 5,102,195	124,707*	55,545	11,618	10,906	70,868
1951	£ 5,261,051	nil	63,493	7,900	12,015	73,791

* Net. Subject to adjustments.

† Including net sundry revenue and investment income.

Working costs rose to £3,618,678 (£3,281,107) leaving a working profit of £1,757,161, compared with £2,137,143. Taxation at £345,913 was £459,660 less than the final amount assessed for 1951 owing to the lower profit combined with the high capital expenditure redemption allowance. The dividend distribution of 30 per cent (same) per 10s. share on the £2,150,000 issued capital absorbed £850,000, leaving the carry forward at the end of 1952 at £613,776, compared with £572,946 brought in.

The Company's uranium plant commenced operations during September last and the estimated net profit of £124,707 shown in the above table is subject to adjustments as no provision has been made for redeeming the capital cost of the uranium plant which is to be repaid over 10 years from the date when full production commenced. This date, however, has not yet been determined. During 1952 an amount of £971,669 was expended on the uranium plant bringing the total expenditure to £1,564,264, which includes £43,320 interest on the loans of £1,524,000 already received by the company through the Atomic Energy Board.

Sir George W. Albu is chairman. Meeting, Johannesburg, May 5.

New Klein's Capital Expenditure Programme

The scheme of expansion at the New Kleinfontein mine seems to be going on well according to the Company's 1952 Annual Report. The programme is to re-open the Van Ryn Deep section of the mine, extend the Glyn shaft and erect a new crusher station with the installation of tube mills, filter plant and other equipment. Most of the items have been erected and are in commission with the exception of the crusher station which should be in commission during the first half of the current year.

The tonnage milled during 1952 was in advance of that previously, being 1,292,000 against 1,279,000. Average yield was slightly lower at 2.6 dwt. per ton but the total recovery was better—168,074 oz. against 167,278 oz. Revenue was 10d. per ton lower at 33s. 5d. and costs rose by 1s. 8d. to 26s. 9d. per ton. Profit per ton came out at 6s. 7d. against 9s. 7d. and the total £428,840, compared with £598,576. Taxation was lower, £131,118 (£225,347), but the net figure after allowing for appropriations necessitated the dividend being reduced to 3s. against 3s. 6d., absorbing £260,250. The amount carried forward was £143,827, compared with £103,027 brought in.

Footage of development was higher—41,240 against 39,154, of which 24,625 ft. were sampled, giving a pay ratio of 52 per cent (against 43), value being 5.40 dwt. As a result of the higher footage of work on the reef and better payability the available ore reserves were increased by 9,000 tons, and now stand at 2,954,000 of 3.2 dwt. The tonnage mined was in advance of that of the previous year and ore was brought from both the N.K. and Apex sections.

The outlook for this mine being run under "independent" control looks very promising and increased efficiency should result from the operation of the new crusher station.

E.R.P.'s Depth Development Programme

While the depleted labour supply at East Rand Proprietary Mines has not so far interfered with the programme of extending the mine in depth, it is having an adverse effect on normal development and production. Tonnage milled during 1952 did not suffer a great deal as the throughput of 2,451,000 tons was only 173,000 lower than in the previous year. There was an

up-grading of the ore treated—4.31 against 4.09 dwt.—and revenue per ton increased by 1s. 9d. to 55s. 3d. This helped to combat the increase of 5s. 1d. per ton in working costs but it was not sufficient to prevent a drop of 3s. 4d. per ton in working profit, and a decrease of £567,284 in the aggregate total of £1,870,796. As taxation called for a much smaller amount—£495,589 against £869,775, and capital expenditure was less—£226,351 compared with £500,000—the net profit enabled the dividend of 5s. per share to be repeated for the third successive year; absorbing £990,000. After allowing for other appropriations, the balance carried forward was £1,018,089 against £849,666 brought in.

The footage of development was not interfered with last year by labour shortage; it amounted to 55,898 ft. against 52,822. Of the 16,340 ft. sampled, 68 per cent proved payable (against 67) but the width narrowed from 41 to 39 in. and value dropped from 11 to 10 dwt. Four reefs were worked—Main Reef, Main Reef Leader, South and Composite Reefs. Ore opened up on the latter is above the average of the mine and a considerable tonnage of this reef was added to the reserves. These are however down by 892,000 tons at 6,051,000—the decrease being necessitated by increase in the pay limit consequent upon rising working costs. Their value is 5.7 dwt., against 5.1 dwt.

Of the shaft-sinking programme, the Central Sub-vertical was sunk to its final depth of 9,637 ft. and the south-east vertical was also completed. It has been possible to keep up to schedule with the shaft-sinking programme.

Geduld Props Milling and Investment Income

The Geduld Proprietary is fortunate in having shareholdings in East Geduld and the Grootvlei Proprietary Mines from which it derives substantial income. Last year the amount received from these investments was £726,005, compared with £772,833, while working profit from the operations of Geduld's own mine brought in £468,733 as against £658,396 in 1951.

Tonnage milled last year again showed a decrease being 1,253,000, compared with 1,259,000 tons. Yield per ton was slightly lower at 2.90 dwt. and revenue dropped by 1s. 1d. This, with a rise of 1s. 11d. per ton in working costs to 29s. 9d., resulted in the profit per ton dropping by 3s. to 7s. 6d. Provision for taxation called for less—£126,253 against £277,070, but the net profit for the year was reduced to £1,054,735 (£1,154,476) and the dividend scaled down from 14s. 9d. to 12s. 6d. absorbing £913,036, which left an unappropriated balance of £376,948, compared with £387,440 brought in.

Mining work was done on both the Main and Black Reefs; the total footage accomplished was 17,542—very similar to that of the previous year. Of the 11,390 ft. sampled, 22 per cent (against 14 per cent previously) proved payable, the value being 217 compared with 215 in.-dwt. Although there was no change in the value of the ore reserves—3.40 dwt., they were depleted by 400,000 tons to 3,100,000 tons.

There was a small increase in the development footage driven on the Black Reef and exploration of the areas away from the known payable zones indicated a higher percentage payability. Drilling from the Black Reef to explore the Kimberley Reef horizon took place but with disappointing results.

East Geduld and the Kimberley Reef

There was not a very big difference in the 1952 results of East Geduld from those of the previous year. By careful organization it was found possible to avoid loss of production in consequence of the shortfall in electric power supply. This, however, was only achieved by dislocation of the normal working of the mine and at increased cost, the extent of which cannot readily be determined.

Tonnage crushed was 13,000 tons less at 1,725,000 tons; there was no change in the yield, 6.0 dwt. but revenue declined by 1s. 8d. to 76s. 9d. per ton and this, with a rise of 1s. 9d. in costs to 27s. 6d., resulted in the profit per ton decreasing by 3s. 5d. to 49s. 7d. Total working profit amounted to £4,274,353 as against £4,604,113. A higher price was obtainable for the 517,544 oz. gold produced; it was 249s. as against 248s. 3d. Taxation called for less—£2,313,720, compared with £2,522,275 and after allowing for appropriations and income from the Company's holding in Grootvlei, the net profit was £2,029,231 (£2,158,393). Dividend paid was 4s. 1d. compared with 4s. 4d. the previous year and absorbed £1,837,500. Balance carried

forward was £573,494 as against £557,797 brought in.

Although experiencing a shortage of native labour, it did not interfere with development. Both the Main and Kimberley Reefs were opened up. On the former the footage was 11,526 (11,132) giving 50 per cent payability of the 7,535 ft. sampled, value 185 in.-dwt. On the Kimberley 3,148 ft. of work was done (2,190) and of the 2,675 ft. sampled, the pay ratio and value were the same as for the previous year—7 per cent and 129 in.-dwt. There is a drop of 400,000 tons in ore reserves at 12,000,000, value the same, 5.7 dwt. On the Kimberley Reef horizon, exploration of the May Reef continued but results were poor.

Grootvlei's Increased Reserves

Although registered as far back as 1904, the Grootvlei Proprietary Mines did not start crushing till 1938. Since then it has given an excellent account of operations, having made working profits of over £32,613,000 and paid shareholders dividends of over 476 per cent. Like most of the Rand mines it is handicapped by shortage of native labour and shortfall in electric power supply, but it nevertheless manages to operate on a big scale.

Tonnage crushed last year was slightly lower at 2,316,000 (2,338,500 tons), the yield being 4.33, compared with 4.45 dwt. Revenue per ton dropped by 2s. 9d. to 55s. 4d. while working costs rose by 1s. 2d. to 26s. 2d. per ton, and profit per ton came out at 29s. 2d. against 33s. 1d. Total working profit was £3,357,694, compared with £3,871,900. Provision for taxation called for a smaller amount, £1,759,448 (£2,055,744) and after allowing for other appropriations and taking into account small investment and other income, there was a net profit of £1,621,425 as against £1,818,798. The dividend was dropped from 3s. to 2s. 6d. per share, absorbing £1,429,852. The balance carried forward was £663,210 compared with £661,121 brought in.

A lower footage of development work was done—49,845 ft. as against 58,027 ft. and of the 37,450 ft. sampled, the pay ratio came out at 50 per cent (51 per cent), while value was 211 against 222 in.-dwt. Ore reserves were built up 500,000 to 16,000,000—the largest aggregation of any mine on the Rand; their value being 4.6 dwt. (4.7).

As the main haulage reticulation of the mine is nearing completion and the general development position is well ahead of requirements to maintain ore reserves, the development footage was curtailed.

Marievale's Higher Reserve Tonnage

There is little of prominent interest in the 1952 annual report of Marievale Consolidated. The common features of labour shortage and shortfall in electric power supply were evident during the year and the tonnage dealt with was lower by 6,000 tons at 723,000. Ore sent to the mill was up-graded—being 5.01 against 4.97 dwt. per ton. In combination with a drop of 8d. per ton in revenue at 64s. 2d., working costs rose by 9d. to 37s. 11d. per ton and resulted in profit per ton being 1s. 5d. less at 26s. 3d. The total was £947,849, compared with £1,009,055 and was the lowest since 1949. There was some saving in taxation, the amount called for being £430,302, against £485,748 and after allowing for investment income and sundry revenue and making necessary appropriations, the net profit for the year was £506,819 as against £512,140. The dividend of 1s. 8d. (against 2s.) called for £375,000 and the balance carried forward was £469,234 as against £467,751 brought in.

Both the Main and Kimberley Reefs are being developed and last year's work resulted in a small decrease in payability but value was higher. The Kimberley pay ratio was 21 against 39 per cent, value coming out at 223 in.-dwt.; that of the Main Reef was 316 against 258 in.-dwt. but the pay percentage dropped from 49 to 45. Re-calculation of the ore reserves was reflected in an increase of 300,000 tons, value being the same, 5.5 dwt.

Exploratory work took place from driving on the sixth level and in the vicinity of the Marievale-Bloemendal boundary to determine what area might be payable. As a result, the company has purchased the rights over an area of approximately 157 morgen of the farm Bloemendal adjoining the boundary. An incline haulage from surface has been started to serve as an additional upcast airway and to prospect the upper levels of the Kimberley Reef.

Van Dyk and the No. 5 Shaft Area

The larger footage of work done in the southern section of the Van Dyk property last year has given a better impression of the possibilities. Of the total development footage of 50,004, work done in the No. 5 shaft area amounted to 27,973 ft. (against 4,480 the previous year). Of this 11,170 ft. were sampled and 39 per cent was payable, assaying 10.2 dwt. over 24 in. Both pay ratio and value were considerably better than in 1951 when the footage on reef started.

Total of the ore mined during the year of 1,417,870 was very similar to previously but it was insufficient to meet the depletion in the ore reserves which at 1,500,000 tons were down by 200,000 tons, with a drop in value—3.5 against 3.6 dwt.

A crosscut from No. 5 Sub-Vertical Shaft is being developed on 44 level to intersect the reef to the south-west of the shaft. Exploratory work on the 48 level has met with considerable reef faulting in the north drive but the south drive has opened up ore of payable value; of the 4,370 ft. driven, 3,935 ft. were sampled and gave 31 per cent payability with a value of 278 in.-dwt. Raising has been started to explore the reef in the anticlinal area above the 48 level horizon.

A bigger tonnage was dealt with last year—1,246,000 (increase of 42,000 tons), value was slightly lower at 2.95 dwt., revenue 1s. 9d. down at 37s. 8d. and costs rose 5d. to 34s. 8d. per ton. Profit per ton was 3s. against 4s. 4d., the total being £188,746 (against £262,686). Taxation was nominal, £8 (same) and after allowing for investment income and sundry revenue and making necessary appropriations, the net profit was £185,769 against £249,703. Capital expenditure called for £68,835 (£176,645) and the unappropriated balance was £162,268. There was again no dividend; the last payment of 2½ per cent was in 1946.

St. Helena's First Year of Production

The first full year of gold production at St. Helena Gold Mines resulted in 598,000 tons of ore being milled for a yield of 3.96 dwt. per ton. The revenue was 50s. 8d. per ton and working costs amounted to 46s. 6d. per ton, resulting in a profit of 4s. 2d. per ton milled, and a total working profit of £123,287. After taking into account sundry items of income and expenditure, the net profit came out at £129,581. Liability in respect of silicosis compensation was £5,776, and after writing off the debit balance and preliminary expenses amounting to £55,409 and appropriating £65,813 in respect of remaining items, the balance unappropriated at the end of the year was £8,359.

The total footage of work accomplished during 1952 on the Leader and Basal Reefs was 65,604 as against 40,205 in 1951. Of the 33,520 ft. sampled on Basal Reef, 43 per cent was payable of 311 in.-dwt., while of the 1,395 ft. sampled on the Leader Reef, 13 per cent was payable, value 173 in.-dwt. The ore reserves, re-calculated at December 31, disclosed a total of 1,250,000 tons having an average assaying value of 5.3 dwt. over a stope width of 50 in. The tonnage was exactly double that computed at the end of the previous year.

Development was limited to the area above the 9th level because no stopes can be developed below this horizon for some time to come due to the presence of a large strike fault in the No. 4 Shaft area. In the meantime, preparation is being made to explore the reef below the 12th level by a small incline shaft from that level. Cementation (for water fissures) and drilling operations continued on a large scale throughout the year, and sufficient points of attack were opened up to allow a large increase in development footage. 118,492 oz. of gold were produced and the average price received was 249s. per oz. The reduction plant operated satisfactorily and the third unit was brought into operation.

Crown Mines Dyke Intrusion

The forewarning given of the dyke intrusion encountered in the south-eastern portion of Crown Mines has, unfortunately, proved to be serious, as the Company's 1952 Annual Report discloses. The results of the exploratory work carried out south of the dyke were disappointing and indicated that the declining trend of values with increases in depth established north of the dyke in previous years, continues' into the area

south of the dyke. In view of these circumstances, coupled with the fact that a considerable downthrow of the reef accompanies the dyke, it was decided that the heavy expenditure necessary to open up the area would not be justified. Incline shaft sinking was stopped and plans formulated for the extraction of the shaft pillars on the eastern side of the mine. On the western side of the mine incline shaft sinking and development are being continued.

The footage of work last year was contracted to 88,995 ft. (against 113,426 ft.), most of it being on the Main Reef Leader, and of the 56,380 ft. sampled, 51.8 per cent was payable, averaging 19.4 dwt. Values exposed on the Kimberley Reef were poor and all work has been stopped.

As a result of increased tonnages taken from the surface dumps, the mill dealt with 11,000 tons more ore at 3,253,000 tons. Yield was slightly down—3.18 against 3.41 dwt. and the recovery of gold was 518, 164 oz. against 552,879. Revenue per ton dropped by 3s. 10d. and working profit by 4s. 9d., while costs rose by 11d. per ton. The result was that the total working profit was less than half that of the previous year—£648,673 against £1,421,464. This necessitated the dividend being halved at 5s. per share absorbing £471,531. The amount called for in taxation was whittled down to £9,320, compared with £419,836, but capital expenditure was up at £165,752 (£80,724). After meeting other appropriations and allowing for a small income from investments, an amount of £1,216,183 was carried forward, compared with £1,166,964 brought in.

"Indians" under the Shadow of Ooregum

The recent announcement that Ooregum was planning to close down due to losses incurred on operations of about £175 per day raises the question of how well or how badly the other three Kolar Goldfield producers are faring. In the absence of monthly working profit figures, it is impossible to make any kind of reasonable guess on the basis of tonnage milled and gold produced.

Results for March were average and call for little comment. Ooregum, paradoxically enough, continues to announce consistent results. Champion Reef at the end of three months is well behind the corresponding results in 1952 but the other three producers show virtually no change.

Company	March, 1953		Months since end of year	Current Financial Year		Last Financial Year	
	Tons (000)	Yield (oz.)		Total to date Tons (000)	Yield (oz.)	Total to Date Tons (000)	Yield (oz.)
Champion Reef	10	3,617	3	31	11,433	41	17,416
Mysore	16	5,600	3	47	17,302	49	16,530
Nundydroog*	21	5,782	3	61	17,466	61	14,242
Ooregum	9	2,579	3	31	7,060	32	8,003

* Includes tailings.

Triefus Maintain Dividend

The reduction of diamond stockpiling by certain governments; the lower sales in some oversea markets caused by import restrictions; and the tendency of manufacturers to draw upon existing stocks, were the three reasons why the net trading profit of Triefus and Co. fell from £215,146 to £127,605.

Year to Dec. 31	Gross Revenue £	Expenses £	Taxa- tion £	Net Profit £	Divi- dend* %	Carry- Fwd. £
1952	129,846	26,770	78,432	24,644	13	4,884
1951	221,806	26,723	115,382	79,701	13	9,640

* Paid on ordinary issued capital of £200,000 in 5s. shares.

Notwithstanding the lower profits the company repeated its dividend payment of 13 per cent which required a net amount of £13,650.

During 1952 the company was appointed Government Valuers to the Gold Coast in respect of their diamond production. This work entails the grading, sorting and valuation of diamond shipments of considerable amounts, each shipment being offered for tender coming under the company's seal. Similarly, the

company has accepted, in conjunction with another concern, the appointment as Government Valuers to Tanganyika, and thus the valuation and assortments of Williamson Diamonds Ltd. are agreed by the company before each shipment is delivered under their new contract.

Mr. Albert Triefus, chairman, in his statement accompanying the accounts, believes that more normal trading conditions are returning so that industrial diamonds and diamond tools will be consumed by engineering organizations instead of being buried in the vaults of stockpiling governments. In any event, the company's sales of diamond tools to the engineering industry and diamond drill bits to the mining companies continue to show a satisfactory upward trend, while sales of its graded diamond powders, built up for a specialized clientele, has been maintained despite difficulties in the supply of the necessary raw materials. Under these conditions, the chairman said the need for new capital was less urgent and consequently, the scheme for the new issue referred to in 1951 has been left in abeyance. Meeting, London, May 1.

British Aluminium's Strong Financial Position

The consolidated profit and loss account of the British Aluminium Company for the year 1952 disclosed a net income of £701,883 compared with £710,005 in 1951. Dividend distributions of the ordinary stock of 12 per cent (same) absorbed £315,000. The carry forward at the end of 1952 was £694,495, compared with £698,490 brought in.

The consolidated balance sheet showed the company to be in a strong financial position. Net current assets totalled £9,265,040 of which £2,750,980 was represented in cash, tax reserve certificates, and government securities. During the year, the company's secured bank overdraft was reduced from £186,218 to £120,033. Total group reserves, less provision made for future income tax, amounted to £8,752,436 which compares with an ordinary issued capital of £5,000,000. Outstanding contracts for capital expenditure are estimated to amount to £440,239 against £792,521 in 1951.

Viscount Portal is chairman. Meeting, London, May 5.

"West Africans" at the Half-way Mark

Five of the nine West African producers listed in the table below have now completed six months of their financial year. Of these five, Amalgamated Banket Areas has the most leeway to make up, its cumulative working profit to date being approximately £25,000 below that of the corresponding period in the previous year. However, Ariston continues to forge ahead and indications at the half-way mark point to the end year results being even better than last year. Ashanti again produced good results and even more important was its announcement that on level 35, a north-east crosscut exposed a reef 17 ft. wide with an average assay value of no less than 44.2 dwt. Bibiani maintained its throughput, and gold recovery but it continues to experience difficulty in making more than £13,000 per month working profit. Gold Coast Main Reef and Konongo remained steady, but Marlu sent more ore to the mill last month than at any time since April, 1952, consequently gold recovery and working profits were both good but not in the record class. Bremang at the end of three months showed a good advance on the figures achieved in the corresponding period in the preceding year.

Taquah and Abosso continued strong, the tonnage milled being the highest for a very long time while the estimated profit before charging depreciation of £9,886 reduced its deficit to approximately £4,000.

Company	March, 1953			Current Financial Year			Last Financial Year			
	Tons (000) (oz.)	Yield (\$000)	Profit* (\$000)	Months since year end	Tons (000) (oz.)	Yield (\$000)	Profit* (\$000)	Tons (000) (oz.)	Yield (\$000)	Profit* (\$000)
A.B.A.	63	8,865	14.4	6	359	54,371	110	304	51,498	135
Ariston Gold	23	9,966	47.6	6	175	61,028	303	166	57,215	284
Ashanti	23	15,000	77.8	6	135	89,500	465	116	87,978	458
Bibiani (1927)	30	6,276	12.8	6	182	36,696	76	179	36,112	93
Bremang*	631	3,206	20.7	3	1,828	8,743	38	1,567	7,814	22
G.C.M.R.	9	3,250	7.8	9	78	29,712	92	77	27,825	94
Konongo	2	2,160	10.3	6	14	13,272	61	14	13,117	58
Marlu Gold	43	4,168	14.1	6	248	24,831	79	250	22,574	54
Taquah and Abosso	25	5,987	9.9	12	174	64,438	L4	257	60,516	!

*Including premium revenue since November, 1951. As the basis of calculating monthly profit varies from company to company direct comparison one with another is not possible. The basis for any one company has, however, remained consistent, unless otherwise indicated.

*Ore treated given in cu. yd. L indicates a loss.

Company Shorts

Resampling "D" Vein at Rhodesia-Katanga.—The consulting engineers in the progress report of Rhodesia-Katanga for 1952 state that resampling of "D" vein from D 3 and D 4 shafts on the 100 ft. level was carried out, but assay results have not yet been received. As soon as the 150 ft. level has been drained and the ground supported where necessary, the previous check sampling programme will be extended to this level.

The underground programme is entirely dependent on the provision of adequate and compressed air power, and much of the work carried out on the property during 1952 was directed towards installing the requisite power plant, and a small powerhouse has been erected.

With regard to the diamond drilling programme, the consulting engineers state that Hole N 6 is being drilled to determine whether the formations in which the copperbelt ore deposits occur exist in depth at Kansamshi. So far it has not proved possible to correlate the beds passed through with those overlying the copperbelt deposits.

Hole C was completed at a depth of 2,000 ft. and by including the low-grade ground between 1,446 ft. and 1,461 ft., a true width between 1,416 ft. and 1,476 ft. of 59.3 ft. was obtained with an average assay of 0.99 per cent copper.

Previous sampling of the old mine workings has indicated that some of the ore contains gold values which may be of economic importance. Parts of the new borehole cores which show appreciable copper values are being assayed for gold.

Captain C. Waterhouse, chairman, in his review accompanying the accounts said that the Kansamshi Copper Mining Company was registered in Northern Rhodesia on March 27, 1953 with an authorized capital of £875,000. Of the initial issued capital Rhodesia-Katanga will receive 30,000 shares free of cost.

Rhodesia-Katanga's report and accounts for 1952 show a loss of £461 after providing for all charges compared with a loss in the preceding year of £2,425. After writing off £3,778 for preliminary expenses, the debit balance carried forward was £259,287 compared with £255,048. Meeting, London, May 5.

Aluminium's 1 for 10 Rights Issue.—Aluminium Limited have announced that, in connection with its proposed offer to shareholders of 818,657 additional shares in the ratio of one new share for every ten shares held, the consent of the Capital Issues Committee has been received for the offer to be made to the Company's shareholders resident in the United Kingdom.

Although H.M. Treasury is unable to provide dollars for the purpose of subscription it will be possible for shareholders in this country to take up their rights by selling certain foreign currency securities or blocked foreign currency funds, as in the case of the 1951 rights issue. Generally speaking, the usual practice has been to purchase D-marks at the ruling price premium of 5 to 6 per cent. Individual applications should be submitted at the appropriate time to the Bank of England on Forms S.15. The record date to establish shareholders entitled to subscribe is expected to be April 24, 1953 and shareholders of record on that date will be individually circularized by Aluminium Limited as soon as possible thereafter.

Paringa's New Subsidiary Proving Profitable.—The report and accounts of Paringa Mining and Exploration Company for the year ended August 31, 1952 revealed a net loss for the year of £6,797 compared with an estimated deficiency of £8,500.

The company's future depends on the acquisition of profitable mining interests and its directors believe the best policy to be that of acquiring majority holdings in a number of mines rather than investing the greater part of its resources in just one venture. The first acquisition made by the company was in August 1952 when a 60 per cent interest was purchased in the Wheal Fortune Extended Lead Mine at Northampton, about 35 miles east of Geraldton, Western Australia.

Draft accounts prepared for the four months to November 25, 1952 showed estimated profits, from the production of 585 tons of lead concentrates, of £8,800, of which Paringa's share was £5,280. Subsequent development reports from the mine have been most satisfactory. Additional mining and treatment plant is being installed to increase production and provided the price of lead does not substantially decline below the average price for February of £93 per ton Mr. Kenny, chairman, said that mine profits will fully justify the investment.

At April 15 last the company's liquid resources, exclusive of the investment in the Wheal Fortune mine, were approximately £72,000 represented by cash and investments at a written down value.

West Vlakfontein Ceases Prospecting.—The report and accounts of West Vlakfontein Gold Mining reiterates their previous announcement which was reported in these columns in our issue of March 27, that they have accepted the recommendation of their technical advisers, New Consolidated Gold Fields Ltd., to terminate forthwith all prospecting operations at the mine. Major General W. W. Richards is chairman. Meeting, Johannesburg, May 15.

Esperanza Copper's Subsidiary Makes £180,000 Profit.—The Esperanza Copper and Sulphur Company has announced that its wholly owned subsidiary, Cyprus Sulphur and Copper, made a further shipment of 9,730 tons of ore during January bringing the total shipments to date, mainly from the Kinousa Property, to 31,412 tons on which it realized an operating profit of approximately £180,000. Ore shipments commenced at the beginning of April, 1952.

The progress report for the March quarter also stated that production at Kinousa is continuing and that regular shipments of ore, on a new contract basis, will be resumed early next month, at which time operating costs should be lower than formerly and that the profit rate should exceed £6 per ton at current prices.

In anticipation of the successful conclusion of the current new issue, details of which are given elsewhere on this page, steps have been taken to expedite the design of the new mill and ancillary plant, and deliveries of the company's requirements should not be delayed. The target date for the completion of the new installation is the end of 1953.

Cyprus Sulphur and Copper is currently testing the theory that substantial ore bodies may be encountered on the Limni Concession, at slightly greater depths than those previously reached by drilling or underground development. In this connection, the first drill hole is being put down in the Limni area but similar tests are to be carried out in due course in Kinousa and other sections of the concession.

A statement by the chairman, Mr. A. Hedley Williams, said that the policy of the Esperanza board was to make a dividend distribution at the earliest possible moment and it seems reasonable to assume that "an initial dividend will be paid some time in 1954."

The directors of Esperanza Copper and Sulphur have announced that they have obtained the consent of the Capital Issues Committee to an issue of 1,542,856 shares of 2/- each at the price of 4/- per share. The shares will be offered to members in the ratio of 1 for every 2 fully paid shares held at the close of business on March 27, 1953. Opportunity will be given to apply for additional shares. Subject to permission to deal being granted by the stock exchange, London, letters of rights will be posted to members on April 2 and the lists will close on April 16. The Issue has been underwritten.

Geldenhuys Deep Distribute More.—The report and accounts of Geldenhuys Deep for 1952 showed that net profit for the year amounted to £5,720. To this sum was added £91,057 brought in, the sum of £700 withdrawn from shareholders' contingency reserve, and a net credit adjustment of £12,030 in respect of taxation, making £109,507 available. The dividend distribution of 1s. per 1s. share (6d. per share), required £28,333 and after appropriating £733 (£1,125) for forfeited dividends, the carry forward at the end of 1952 was £80,441. Mr. T. Reekie is chairman. Meeting, Johannesburg, May 12.

UNION CORPORATION, LIMITED

(Incorporated in the Union of South Africa.)

ABRIDGED REPORT OF THE DIRECTORS FOR YEAR 1952

After providing £818,300 for United Kingdom taxation the profit for the year is £1,058,145, plus £313,541 brought forward, making a total of £1,371,686. The Directors have placed £400,000 to the credit of Exploration Reserve Account, and have declared a final dividend of 10d. United Kingdom currency per 2s. 6d. share free of United Kingdom Income Tax, absorbing £387,500, and making, with the interim dividend of 6d. per 2s. 6d. share, a total distribution of 1s. 4d. per 2s. 6d. share free of United Kingdom Income Tax or £620,000 for the year, leaving £351,686 to be carried forward.

In July, 1952, each of the Corporation's Ordinary Shares of 12s. 6d. was sub-divided into five Ordinary Shares of 2s. 6d. each. Holdings of shares, debentures and other securities have been taken into the Accounts at cost or under but in no case above the market value of December 31 last, or, where no market price exists, above the Directors' valuation. At present market prices these holdings show a very substantial surplus over the amount at which they stand in the Balance Sheet. The Directors, as on other occasions, have thought it expedient to write down the book cost of certain holdings below both cost and market price.

A copy of the Corporation's Annual Trade Cycles Chart, revised to date, is enclosed with the Report.

GOLD MINING INTERESTS

Summary of the operating results for the past year of the Companies operating in the Witwatersrand in which the Corporation is largely concerned:—

	East Geduld Mines Ltd.	Geduld Proprietary Mines Ltd.	The Grootvlei Proprietary Mines Ltd.	Marievale Consolidated Mines Ltd.	St. Helena Gold Mines Ltd.	Van Dyk Consolidated Mines Ltd.
Tons milled	1,725,000	1,253,000	2,316,000	723,000	598,000	1,246,000
Yield per ton (dwt.)	6.00	29s. 9d.	4s. 3d.	5.01	3.96	2.95
Working Costs per ton	27s. 2d.	29s. 9d.	26s. 2d.	38s. 0d.	46s. 6d.	34s. 8d.
Working Profit per ton	49s. 7d.	7s. 6d.	29s. 2d.	26s. 2d.	4s. 2d.	3s. 0d.
Total Working Profit	£4,274,000	£469,000	£3,376,000	£948,000	£123,000	£189,000
Net Profit	£2,029,000	£1,055,000	£1,621,000	£507,000	£130,000	£186,000
Dividends : Total	£1,837,000	£913,000	£1,430,000	£375,000	—	—
Per Stock Unit or Share	4s. 1d.	12s. 6d.	2s. 6d.	1s. 8d.	—	—

The net profit figures include revenue from other sources. Thus East Geduld Mines' dividend income in 1952 on its shareholding in The Grootvlei Proprietary Mines was £67,200 and Geduld Proprietary Mines' dividend income in 1952 on its shareholdings in East Geduld Mines and The Grootvlei Proprietary Mines was £720,270.

Tonnage milled and working profits of St. Helena Gold Mines Limited increased gradually but steadily during the year. The amount of payable footage disclosed by the accelerated development programme was more than three times that in the previous year although the values were somewhat lower. Expenditure of capital funds in 1952 amounted to £673,900, of which £267,613 was for development footage in excess of that covered by working costs.

THE WITHOEK PROPRIETARY COMPANY.—No prospecting operations have been carried out by this Company since the completion of the borehole referred to in last year's Report.

Interest in Gold Mining Companies not under the administration of the Corporation:

STILFONTEIN GOLD MINING COMPANY.—Since this Company commenced milling in July, 1952, production and profits have steadily improved. The capacity of the reduction plant is to be increased by the end of 1953 to 80,000 tons per month. To provide funds for this and for the necessary expansion of mining operations, the Company, in November last, made an offer of shares to its shareholders in which the Corporation participated.

WESTERN HOLDINGS.—Development work to date has shown a high percentage of payability with good values on the Basal Reef. In preparation for production test runs of the reduction plant have been carried out successfully. The capacity of the plant is being expanded from 50,000 to 75,000 tons per month.

OTHER MINING INTERESTS

SAN FRANCISCO MINES OF MEXICO.—This Company earned a Working Profit of £3,474,000 in the year ended 30th September, 1951, and paid a dividend of 6/- per 10/- Stock unit in respect of that year compared with 3/- per unit for the preceding year (after allowing for the bonus issue of 1 for 1 in May, 1951). In the year to 30th September, 1952, 657,000 tons of lead-zinc-silver ore were milled compared with 597,400 tons in the previous year. Operations during the first three months of the year were curtailed by power cuts and a fire in the South Shaft affected production in January, 1952, but during the remainder of the year the mill worked to its expanded capacity of approximately 60,000 metric tons per month.

CHROME MINES OF SOUTH AFRICA.—Owing to the limited number of trucks made available by the South African Railways, production had to be restricted at both the Zwartkop and Groothoek Mines and large stockpiles have accumulated at the Mines against orders in hand.

Interest in other Mining Companies not under the administration of the Corporation:

TSUMEB CORPORATION.—The net profit of this Company for the year ended 30th June, 1952, was £4,645,443 compared with £2,966,943 for the previous year and dividends totalling 14/- per share were declared. During the first nine months of the Company's financial year dividends totalling 10s. 0d. per share have been declared.

OTHER INTERESTS

BAY HALL TRUST.—The net profit for 1952 was £96,845 and a dividend of 7 per cent free of tax was declared. The Trust's investments as at December 31st last showed an appreciation of £422,412 over book cost of £2,189,144.

BRITISH ENKA.—Production in 1951 was further increased. Net profits for the year rose to £419,415 to which was added £84,688 in respect of taxation and deferred repairs over-provided in previous years and no longer required, making a total of £504,103. Dividend of 10 per cent was again paid, absorbing £98,437. £350,000 was transferred to General Reserve and Carry Forward was increased by £55,666. During 1952 the Company was forced to reduce production owing to a severe recession in trade.

SOUTH AFRICAN PULP & PAPER INDUSTRIES.—During the year production and sales were again increased notwithstanding a substantial fall in the price of imported papers in the latter half of the year. The net profit for 1952, after making provision for taxation and depreciation, amounted to £424,149. Dividends totalling 2s. 0d. per share have been declared.

The second and larger of the two additional paper machines at the Enstra Mill is expected to start commercial production shortly. Satisfactory progress is being made in the erection and construction of the new Mill in Natal. To provide funds to complete the programme the Company has recently made arrangements to obtain a further long term loan of £750,000 from The South African Mutual Life Assurance Society.

EXPLORATION

During the year Capital Mining Areas Limited increased the area it holds under option in the Bethal and adjoining Districts of the Transvaal. For the sake of convenience, the bulk of the options, covering an extensive area about which very little is known at present, were apportioned amongst five new small exploratory Companies, which are subsidiaries of the Corporation, leaving Capital Mining Areas to confine its energies to drilling a limited area within which it has obtained some encouraging gold values in the Kimberley Reef. A good deal of drilling remains to be done before any conclusions can be drawn as to the economic possibilities of this limited area.

Central Mineral Exploration carried out further exploration work during the year on its concessions in the Mlala area of Tanganyika.

Copies of the full Report and Accounts can be obtained on application at the London Office, Princes House, 95 Gresham Street, E.C.2.

AMALGAMATED COLLIERIES OF SOUTH AFRICA

(Inc. in the Union of S. Africa)

The seventeenth annual general meeting of Amalgamated Collieries of South Africa, Ltd., will be held in Johannesburg on May 15.

The following is an extract from the statement by the chairman, Mr. T. Coulter, dated March 16, 1953, circulated with the annual report and accounts for the year ended December 31, 1952.

Your company conducts its business of coal mining firstly through its directly owned collieries, Cornelia in the Vereeniging district and New Schoongezicht in the Middelburg district, and secondly through its wholly owned subsidiary companies, Springfield Collieries, Ltd., which mines in the Vereeniging district and near Grootvlei Station in the Heidelberg district, and Largo Colliery Company, Ltd., which has its pits near Springs.

Hereunder is a comparative summary of the sales outputs of the company's collieries and subsidiary companies in the years 1950 to 1952 inclusive:—

	1950 Tons	1951 Tons	1952 Tons
Cornelia	2,738,148	2,813,569	3,135,791
Schoongezicht (Old and New)	924,020	864,369	840,775
Springfield (including Grootvlei section) ..	2,519,013	2,777,494	3,228,258
Largo	609,567	638,222	659,316
TOTALS	6,790,748	7,093,654	7,864,140

Net profits earned during the year amounted to £693,453, as compared with £521,806 in 1951. Provision for taxation, including adjustments in respect of prior fiscal years, was £105,500. Dividends totalling 3s 6d per share, as against 3s, absorbed £500,500. The balance of unappropriated profits carried to the balance-sheet was £218,967.

Bertha No. 2 shaft at Cornelia Colliery, which was designed to meet the requirements of the additional generating sets at the Vaal Power Station, came into operation in October, 1951. The power station demand has not yet reached the maximum, but before the end of 1953 it is expected that production from this pit will approach the rate of 1,200,000 sales tons per annum.

Old Schoongezicht Colliery, near Witbank, finally closed down at the end of June, 1952, after operating for more than 30 years. The replacement colliery, known as New Schoongezicht, is established on a section of the Eastern Witbank coalfield owned by Witbank Coal Holdings, Ltd. This pit commenced production in May, 1952, and has a capacity on single shift operation of 900,000 tons of coal per annum.

BLESBOK COLLERY, LTD. Your company holds a considerable interest in this company which was formed for the purpose of opening up No. 5 seam on ground owned by Witbank Coal Holdings, Ltd., in the Middelburg district for the supply of blend coking coal to the South African Iron and Steel Industrial Corporation, Ltd., on a long-term contract. The sales output for the year 1952 amounted to 569,142 tons and dividends totalling 7d per share on the 5s shares were paid.

NEW LARGO COLLERY, LTD. Your company owns a substantial interest in this new colliery company, which has established its first pit called "A" Winning on ground in the Balmoral/Kendal coalfield leased from African and European Investment Company, Ltd., and Witbank Coal Holdings, Ltd.

"A" Winning and its main surface works are situated about seven miles north of Abor Station on the Germiston/Witbank railway line. During the course of the next 18 months a second pit called "B" Winning will be established about four miles north of "A" Winning. This new producer has been designed primarily to replace Old Largo Colliery and to meet the increased demands of the Rand power stations of the Electricity Supply Commission, and also to supply the needs of the new Wilge station of the Electricity Supply Commission which is in the process of being erected as a pithead station on the company's leasehold property. Production commenced at the beginning of January, 1953. Initial output will be of the order of 50,000 sales tons per month, which is expected to increase gradually from January, 1954, onwards to an ultimate output of the order of 2,250,000 tons per annum in 1956-57.

During the year 1952 the collieries of the Union of South Africa sold 30,935,560 tons of coal, as compared with 28,767,732 tons during the year 1951, an increase of 2,167,828 tons.

In so far as the Transvaal is concerned, railway transport difficulties have resulted in the disappearance for the time being of the export market.

New inland price determinations in July, 1952, provided some alleviation of the difficulties created by the loss of export which for many years had subsidised inland prices.

CENTRAL MINING—RAND MINES GROUP

NOTICE IS HEREBY GIVEN THAT THE ORDINARY GENERAL MEETINGS OF THE UNDERMENTIONED COMPANIES WILL BE HELD IN THE BOARD ROOM, SECOND FLOOR, THE CORNER HOUSE, COMMISSIONER STREET, JOHANNESBURG, AS FOLLOWS:—

Name of Company (each incorporated in the Union of South Africa)	Date of Meeting 1953	Time	Transfer Books and Registers of Members close as under (both days inclusive) 1953
Modderfontein B. Gold Mines, Limited	Tuesday 12th May	11 a.m.	6th to 12th May
Durban Roodepoort Deep, Limited	do.	Noon	do.
Rose Deep, Limited	do.	2.30 p.m.	do.
Geldenhuys Deep, Limited	do.	3.30 p.m.	do.
Crown Mines, Limited	Wednesday 13th May	11 a.m.	7th to 13th May
East Rand Proprietary Mines, Limited	do.	Noon	do.
City Deep, Limited	do.	2.30 p.m.	do.
Transvaal Consolidated Land and Exploration Company, Limited	do.	3.30 p.m.	do.
Rand Mines, Limited	Friday 15th May	11 a.m.	9th to 15th May

ABRIDGED NOTICES OF "SPECIAL BUSINESS" TO BE CONSIDERED AT THE ORDINARY GENERAL MEETINGS OF MODDERFONTEIN B. GOLD MINES, LIMITED and ROSE DEEP, LIMITED

REDUCTION OF CAPITAL

MODDERFONTEIN B. GOLD MINES, LIMITED

NOTICE IS ALSO HEREBY GIVEN that at the Ordinary General Meeting of MODDERFONTEIN B. GOLD MINES, LIMITED shareholders will be asked to consider a resolution as a Special Resolution in terms of the Companies Act (1926), as amended, of the Union of South Africa, to allow for the reduction of the authorized capital of the Company from £420,000 to £350,000 by returning to shareholders paid-up capital which is in excess of the wants of the Company to the extent of 6d. per share, thus reducing the nominal value of the shares from 3s. to 2s. 6d. each.

In continuance of its policy of making annual repayments of capital in preference to the declaration of dividends, the Board recommends a further capital repayment as such repayments are tax free in the hands of all shareholders whereas dividends are subject to taxation in the hands of some shareholders.

ROSE DEEP, LIMITED

AND NOTICE IS ALSO HEREBY GIVEN that at the Ordinary General Meeting of ROSE DEEP, LIMITED shareholders will be asked to consider a resolution as a Special Resolution in terms of the Companies Act (1926), as amended, of the Union of South Africa, to allow for the reduction of the authorized capital of the Company from £700,000 to £665,000 by returning to shareholders paid-up capital which is in excess of the wants of the Company to the extent of 1s. per share, thus reducing the nominal value of the shares from £1 to 19s. each.

At this stage in the life of the mine the Board considers that the time is opportune for commencing to make reductions of capital as such repayments are tax free in the hands of all shareholders whereas dividends are subject to taxation in the hands of some shareholders.

GENERAL NOTE

In terms of the Companies Act, as amended, of the Union of South Africa, a member entitled to attend and vote at a meeting may appoint a proxy, or where allowed, one or more proxies to attend and vote on a poll and speak in his stead. A proxy need not be a member of the Company.

Those holders of Share Warrants who wish and have the right to be represented at these meetings, can obtain the necessary information regarding the formalities to be complied with and forms of proxy on application.

A. MOIR & Co.,
London Secretaries.

Office of the London Secretaries :
4 London Wall Buildings, E.C.2.
10th April 1953.

CITY DEEP, LIMITED

(Incorporated in the Union of South Africa)

Extracted from the Annual Report for the Year Ended
31st December, 1952

Capital : £2,500,000 in £1 Shares.	£2,026,832 issued,	fully paid
Tons milled 1,851,000		Per ton milled
Total Working Revenue	£4,809,813	£2 12 0
Total Working Expenditure	4,372,312	2 7 3
Working Profit	£437,501	£0 4 9
Total Profit for the year	£466,540	
Balance unappropriated at 31st December, 1951	867,124	
Transfer from Shareholders Contingency Reserve	7,600	
		£1,341,264

This amount has been dealt with as follows :—
 Funds transferred for Capital Expenditure £264,652
 Taxation 9,319
 Forfeited Dividends Account 7,569
 Dividends declared during the year—No. 65 of
 1s. 6d. per share and No. 66 of 1s. 0d. per share 253,354

534,894

Leaving an unappropriated balance of £806,370

The ore reserve was re-estimated as at 31st December, 1952, as
 follows :—

REEF	SHAFT AND SAFETY PILLARS			TOTAL					
	AVAILABLE	TONS VALUE	WIDTH	TONS VALUE	WIDTH	TONS VALUE			
	(000s)	DWT. INCHES	(000s)	DWT. INCHES	(000s)	DWT. INCHES			
Pyritic Quartzites ..	16	4.1	70.0	—	—	16	4.1	70.0	
Main Reef ..	211	4.0	59.0	21	4.1	57.4	232	4.0	58.8
Main Reef									
Leader	4,334	6.1	41.5	663	6.3	44.7	4,997	6.1	41.9
South Reef ..	836	4.3	50.9	152	4.6	42.9	988	4.3	49.5
Total ..	5,397	5.7	43.3	836	5.9	44.6	6,233	5.7	43.5

Compared with the previous year the available reserve decreased by 37,000 tons, the value being 0.1 dwt. lower and the width 0.7 inch higher.
 The full Report and Accounts may be obtained from the London Secretaries, A. MOIR & CO., 4 London Wall Buildings, E.C.2.

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Amalgamated Banket Areas 5%

American Smelting and Refining 75 c.

Burma Oil: Cum. First Pref. 6%; 6% Cum. Second Pref.;
8% Cum. Pref. (April 30)

Delta Metal 20%*

Filani Nigeria Tin 5% *

General Mining and Finance Corporation 15% (June 5)

Gold Mines of Kalgoorlie 6d. (May 9)

Great Boulder Proprietary 6d. (June 19)

International Metal Industries 40 c.

Kepong Dredging 3d. i (April 2)

Messina (Transvaal) Development 200% i

Morning Star Gold 1s.

Mulfuria Copper Mines 15% i (April 27)

Oceana Development 10% (May 19)

Renong Tin Dredging 15% i

Rhodesian Selection Trust 15% i (May 30)

Roan Antelope Copper 12½% i (June 5)

Steel Company of Wales 1½%

Sungei Kinta Tin Dredging 1s. i (April 2)

Triefus and Co. Pref. 15%

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